Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track R	epeat	Science Topics	Science description	coordina ion?	t Raster description
1	1.08	AR Properties Deep	0000318	10	AR 14 day track	1.50	0.44		Y I	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N	HOP	Small raster C II Mg II h/k Mg II w s
1	1.17	AR Raster Timeseries	0206321	720	AR 14 day track	1.00	1.09		ΥI	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns	HOP	Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
1	1.22	Plage Dynamics	0000010	10	AR Plage	1.00	0.34		ΥI	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns	HOP	Small (3") raster CII Si IV Mg II h/k Mg II w
1	1.29	Plage Dynamics Deep	0008010	100	AR Plage	1.50	0.00		ΥI	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns	HOP	Small (3") raster Full wavelength coverage, deep x4 CII Si IV Mg II h/k Mg II w
1	1.39	Plage SnS	0000014	1	AR Plage	1.00	1.47		ΥI	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves	HOP	Small sit-and-stare CII Si IV Mg II h/k Mg II w
1	1.49	Plage SnS EW	0000014	1	AR Plage	1.00	1.47	90	ΥI	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	HOP	Small sit-and-stare CII Si IV Mg II h/k Mg II w
1	1.55	Spot Dynamics Deep	0008010	100	Sunspot	1.50	0.00		ΥI	Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,)	HOP	Small (3") raster Full wavelength coverage, deep x4 CII Si IV Mg II h/k Mg II w
1	1.62	Spot SnS	0006015	4	Sunspot	1.00	0.46		ΥI	Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves	HOP	Medium sit-and-stare Deep x 4 C II Si IV Mg II h/k Mg II w
1	1.68	Spot SnS EW	0006015	4	Sunspot	1.00	0.46	90	ΥI	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves	HOP	Medium sit-and-stare Deep x 4 C II Si IV Mg II h/k Mg II w
1	1.74	AR Raster Timeseries	0206321	720	AR Plage	0.75	0.82		ΥI	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	HOP	Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
1	1.92	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		ΥI	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N	HOP	Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
2	2.04	Flat Field	9000000	10,800	Disk Center	3.00	0.00		S	Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
2	2.22	QS Properties	0208413	5,400	DC	1.50	2.73		Y S	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable $\ensuremath{S/N}$		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
2	2.26	QS Dynamics	0206010	40	DC	1.00	0.00		Y S	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
2	2.30	QS SnS	0206015	4	DC	1.00	0.00		Y S	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
2	2.34	QS SnS	0206015	4	DC	1.00	0.00	90	Y S	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
2	2.52	QS Properties	0208413	5,400	DC	1.50	2.73		Y S	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
2	2.95	Limb to limb	0408330	1,000	Equator	5.00	5.39	90	W	Veekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
3	3.18	Limb to limb	0208331	400	Equator	2.00	3.36	90	v	Veekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
3	3.61	Limb to limb	0408330	1,000	Central Meridian	5.00	5.39		W	Veekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
3	3.83	Limb to limb	0208331	400	Central Meridian	2.00	3.36		W	Veekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
4	4.01	CH limb properties	0208413	5,400	north pole	1.50	2.73		Y S	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize CH Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
4	4.05	CH limb Dynamics	0204010	20	north pole	1.00	0.00		Y S	Semi- daily	W CB CM SW FE SP IR	Limb dynamics in small region: spicules		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.11	CH limb SnS	0204015	2	north pole	1.00	0.46		Y S	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.17	CH limb SnS	0204015	2	north pole	1.00	0.46	90	Y S	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EW to cross many spicules: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.35	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		ΥI	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
4	4.44	AR Raster Timeseries	0206321	720	AR 14 day track	1.00	1.09		ΥI	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
4	4.52	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		ΥI	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
4	4.58	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		ΥI	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
4	4.69	Plage SnS	0200015	1	AR Plage	1.00	1.66		ΥI	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.80	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	ΥI	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.87	Fans Dynamics Deep	0204010	20	AR fan	1.50	0.00		ΥI	Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.91	Fans SnS	0206015	4	AR fan	1.00	0.00		ΥI	Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
4	4.95	Fans SnS EW	0206015	4	AR fan	1.00	0.00	90	ΥI	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
5	5.10	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		YI	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours		Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
5	5.28	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		ΥI	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordinat ion?	Raster description
5	5.45	QS limb Properties	0208413	5,400	quiet limb	1.50	2.73	SPEL	Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
5	5.49	QS limb Dynamics	0204010	20	quiet limb	1.00	0.00	SPEL	Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
5	5.54	QS limb SnS	0204015	2	quiet limb	0.75	0.35	SPEL	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
5	5.59	QS limb SnS	0204015	2	quiet limb	0.75	0.35	SPAL	Υ	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EW to cross many spicules: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
5	5.71	Flat Field	9000000	10,800	Disk Center	3.00	0.00			Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
6	6.38	Full Disk PR Shots	0074325	180	Full disk mosaic 15x15 pointings	11.25	4.73			Every 3 days	W CB CM SW FE SP IR	Full disk mosaic with FUV rebinned x4 for counts and speed		Very large raster Deep x 2 Spatial x 2, Spectral x 8 C II Mg II h/k Mg II w s
6	6.55	QS Properties	0208413	5,400	QS mu = 0.8	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
6	6.59	QS Dynamics	0206010	40	QS mu = 0.8	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
6	6.64	QS SnS	0204015	2	QS mu = 0.8	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
6	6.69	QS SnS	0204015	2	QS mu = 0.8	0.75	0.35	90	Υ	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves	6	Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
6	6.86	QS Properties	0208413	5,400	QS mu = 0.8	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at better S/N (rebin $x2$ )		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
7	7.04	AR Properties Deep	0208313	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
7	7.10	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Υ	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
7	7.19	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Υ	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
7	7.25	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
7	7.36	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
7	7.47	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	S	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
7	7.53	Spot Dynamics Deep	0206010	40	Sunspot	1.50	0.00		Y	Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,,	.)	Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
7	7.59	Spot SnS	0204015	2	Sunspot	1.00	0.46		Y	Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
7	7.66	Spot SnS EW	0204015	2	Sunspot	1.00	0.46	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
7	7.81	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	s	Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
7	7.98	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
8	8.08	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-90			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.17	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-75			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.27	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-60			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.36	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-45			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.46	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-30			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.55	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-15			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.65	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	0			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.74	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	15			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.84	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	30			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
8	8.93	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	45			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
9	9.02	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	60			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
9	9.12	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	75			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
9	9.21	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	90			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
9	9.39	Prominence Properties	0208413	5,400	Prominence at limb	1.50	2.73				W CB CM SW FE SP IR	Deep full WL raster to characterize Prominence Properties in all wavelengths at reasonable S/N	e	Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordina ion?	t Raster description
9	9.43	Prominence Dynamics	0206010	40	Prominence at limb	1.00	0.00				W CB CM SW FE SP IR	Prominence dynamics in small region: waves, convective flows, heating to high temperatures		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
9	9.48	Prominence SnS	0204015	2	Prominence at limb	0.75	0.35				W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
9	9.52	Prominence SnS	0204015	2	Prominence at limb	0.75	0.35	SPEO			W CB CM SW FE SP IR	Fast sit and stare TS with slit perpendicular to long axis of prominence: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
9	9.70	Prominence Properties	0208413	5,400	Prominence at limb	1.50	2.73				W CB CM SW FE SP IR	Deep full WL raster to characterize Prominence Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
9	9.88	CH Properties	0208413	5,400	CH mu =0.3	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at reasonable S/ ${\sf N}$		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
9	9.92	CH Dynamics	0206010	40	CH mu =0.3	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	Disk CH dynamics in small region: spicules, TR downflows, nanoflare effects, waves/ upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
9	9.96	CH SnS	0204015	2	CH mu =0.3	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
10	10.01	CH SnS	0204015	2	CH mu =0.3	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS + high frequency waves	6	Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
10	10.18	CH Properties	0208413	5,400	CH mu =0.3	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
10	10.31	Flat Field	9000000	10,800	Disk Center	3.00	0.00			Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
10	10.49	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
10	10.55	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
10	10.63	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
10	10.70	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
10	10.81	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
10	10.92	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	6	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
10	10.98	Fans Dynamics Deep	0204010	20	AR Fan	1.50	0.00		Y	Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
11	11.04	Fans SnS	0204015	2	AR Fan	1.00	0.46		Y	Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
11	11.10	Fans SnS EW	0204015	2	AR Fan	1.00	0.46	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
11	11.25	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	6	Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
11	11.43	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
11	11.50	QS Spicule Propagation	0000032	2	QS Limb (2 Step - 0.33"; 10" Above)	0.50	1.17	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.57	QS Spicule Propagation	0000032	2	QS Limb (2 Step - 0.33"; 5" Above)	0.50	1.17	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.62	QS Spicule Propagation	0000033	2	QS Limb (2 Step - 1"; 10" Above)	0.50	0.64	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.66	QS Spicule Propagation	0000034	2	QS Limb (2 Step - 2"; 10" Above)	0.50	0.64	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.71	QS Spicule Propagation	0000033	2	QS Limb (2 Step - 1"; 5" Above)	0.50	0.64	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.76	QS Spicule Propagation	0000034	2	QS Limb (2 Step - 2"; 5" Above)	0.50	0.64	SPAL			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.83	PCH Spicule Propagation	0000032	2	PCH Limb (2 Step - 0.33"; 10" Above)	0.50	1.17	90			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.90	PCH Spicule Propagation	0000032	2	PCH Limb (2 Step - 0.33"; 5" Above)	0.50	1.17	90			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.95	PCH Spicule Propagation	0000033	2	PCH Limb (2 Step - 1"; 10" Above)	0.50	0.64	90			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
11	11.99	PCH Spicule Propagation	0000033	2	PCH Limb (2 Step - 1"; 5" Above)	0.50	0.64	90			W CM SW SP	Wave/Mass Transport in spicules		Two-step raster CII Si IV Mg II h/k Mg II w
12	12.04	PCH Spicule Propagation	0000035	3	PCH Limb (2 Step - 2"; 10" Above)	0.50	0.64	90			W CM SW SP	Wave/Mass Transport in spicules		Three-step raster C II Si IV Mg II h/k Mg II w
12	12.09	PCH Spicule Propagation	0000035	3	PCH Limb (2 Step - 2"; 5" Above)	0.50	0.64	90			W CM SW SP	Wave/Mass Transport in spicules		Three-step raster CII Si IV Mg II h/k Mg II w
12	12.26	QS Properties	0208413	5,400	QS mu = 0.7	1.50	2.73		Υ	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
12	12.31	QS Dynamics	0206010	40	QS mu = 0.7	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
12	12.35	QS SnS	0204015	2	QS mu = 0.7	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordina ion?	t Raster description
12	12.40	QS SnS	0204015	2	QS mu = 0.7	0.75	0.35	90	Υ	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
12	12.57	QS Properties	0208413	5,400	QS mu = 0.7	1.50	2.73		Υ	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
13	13.24	Full Disk PR Shots	0074325	180 <sup>F</sup>	Full disk mosaic 15x15 pointings	11.25	4.73			Every 3 days		Full disk mosaic		Very large raster Deep x 2 Spatial x 2, Spectral x 8 C II Mg II h/k Mg II w s
13	13.42	AR Properties Deep	0208313	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
13	13.48	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
13	13.56	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
13	13.63	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
13	13.74	Plage SnS	0200015	1	AR Plage	1.00	1.66		Υ	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
13	13.85	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
13	13.91	Spot Dynamics Deep	0206010	40	Sunspot	1.50	0.00		Υ	Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,)		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
13	13.95	Spot SnS	0206015	4	Sunspot	1.00	0.00		Y	Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
13	13.99	Spot SnS EW	0206015	4	Sunspot	1.00	0.00	90	Υ	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
14	14.14	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours		Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
14	14.32	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
14	14.50	CH Properties	0208413	5,400	ECH	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at reasonable S/ ${\sf N}$		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
14	14.54	CH Dynamics	0206010	40	ECH	1.00	0.00		Υ	Semi- daily	W CB CM SW FE SP IR	Disk CH dynamics in small region: spicules, TR downflows, nanoflare effects, waves/ upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
14	14.58	CH SnS	0204015	2	ECH	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
14	14.63	CH SnS	0204015	2	ECH	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
14	14.81	CH Properties	0208413	5,400	ECH	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
15	15.45	Limb to limb	0408030	1,000	Equator	5.00	10.44	90		Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
15	15.76	Limb to limb	0208031	400	Equator	2.00	5.38	90		Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
16	16.40	Limb to limb	0408030	1,000	Central Meridian	5.00	10.44			Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
16	16.71	Limb to limb	0208031	400	Central Meridian	2.00	5.38			Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
16	16.88	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Υ	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
16	16.95	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
17	17.03	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
17	17.10	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Υ	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
17	17.21	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
17	17.32	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
17	17.38	Fans Dynamics Deep	0204010	20	AR Fan	1.50	0.00		Υ	Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
17	17.44	Fans SnS	0204015	2	AR Fan	1.00	0.46		Y	Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
17	17.50	Fans SnS EW	0204015	2	AR Fan	1.00	0.46	90	Υ	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
17	17.65	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours		Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
17	17.83	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
17	17.95	Flat Field	9000000	10,800	Disk Center	3.00	0.00			Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
18	18.13	QS Properties	0208413	5,400	QS mu = 0.6	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordinat ion?	Raster description
18	18.17	QS Dynamics	0206010	40	QS mu = 0.6	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.22	QS SnS	0204015	2	QS mu = 0.6	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.26	QS SnS	0204015	2	QS mu = 0.6	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.44	QS Properties	0208413	5,400	QS mu = 0.6	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
18	18.62	Prominence Properties	0208413	5,400	Polar Prominence at limb	1.50	2.73				W CB CM SW FE SP IR	Deep full WL raster to characterize Prominence Properties in all wavelengths at reasonable $\ensuremath{S/N}$	9	Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
18	18.66	Prominence Dynamics	0206010	40	Polar Prominence at limb	1.00	0.00				W CB CM SW FE SP IR	Prominence dynamics in small region: waves, convective flows, heating to high temperatures		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.70	Prominence SnS	0204015	2	Polar Prominence at limb	0.75	0.35				W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.75	Prominence SnS	0204015	2	Polar Prominence at limb	0.75	0.35	SPEO			W CB CM SW FE SP IR	Fast sit and stare TS with slit perpendicular to long axis of prominence: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
18	18.92	Prominence Properties	0208413	5,400	Polar Prominence at limb	1.50	2.73				W CB CM SW FE SP IR	Deep full WL raster to characterize Prominence Properties in all wavelengths at better S/N (rebin x2) $$		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
18	18.97	Quiet Sun Limb SnS	0216015	4	Off Limb (2" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.01	Quiet Sun Limb SnS	0216015	4	Off Limb (4" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.05	Quiet Sun Limb SnS	0216015	4	Off Limb (6" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.09	Quiet Sun Limb SnS	0216015	4	Off Limb (8" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.13	Quiet Sun Limb SnS	0216015	4	Off Limb (10" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.17	Quiet Sun Limb SnS	0216015	4	Off Limb (12" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.22	Quiet Sun Limb SnS	0216015	4	Off Limb (15" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.26	Quiet Sun Limb SnS	0216015	4	Off Limb (20" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.43	AR Properties Deep	0208313	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
19	19.50	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
19	19.58	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
19	19.65	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
19	19.76	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.87	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	6	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.93	Spot Dynamics Deep	0206010	40	Sunspot	1.50	0.00		Y	Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,)	)	Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
19	19.97	Spot SnS	0206015	4	Sunspot	1.00	0.00		Y	Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
20	20.01	Spot SnS EW	0206015	4	Sunspot	1.00	0.00	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
20	20.16	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	3	Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
20	20.34	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
20	20.38	Filament Dynamics	0004010	20	AR filament	1.00	0.00				W F CM	Filament dynamics in small region: waves, convective flows, heating to high temperatures		Small (3") raster Deep x 2 CII Si IV Mg II h/k Mg II w
20	20.47	Filament SnS	0004015	2	AR filament	0.75	1.25				W F CM	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 C II Si IV Mg II h/k Mg II w
20	20.55	Filament SnS	0004015	2	AR filament	0.75	1.25	SPEO			W F CM	Fast sit and stare TS with slit perpendicular to long axis of filament: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 C II Si IV Mg II h/k Mg II w
20	20.64	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-90			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
20	20.74	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-75			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
20	20.83	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-60			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
20	20.93	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-45			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.02	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-30			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordinat ion?	Raster description
21	21.12	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-15			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.21	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	0			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.31	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	15			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.40	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	30			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.50	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	45			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.59	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	60			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.69	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	75			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.78	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	90			W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
21	21.96	QS Properties	0208413	5,400	QS mu = 0.5	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
21	22.00	QS Dynamics	0206010	40	QS mu = 0.5	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.04	QS SnS	0204015	2	QS mu = 0.5	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.09	QS SnS	0204015	2	QS mu = 0.5	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves	3	Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.27	CH Properties	0208413	5,400	ECH	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at reasonable S/ $\rm N$		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
22	22.31	CH Dynamics	0206010	40	ECH	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	Disk CH dynamics in small region: spicules, TR downflows, nanoflare effects, waves/ upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.35	CH SnS	0204015	2	ECH	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.40	CH SnS	0204015	2	ECH	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS + high frequency waves	5	Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
22	22.57	CH Properties	0208413	5,400	ECH	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize disk CH Properties in all wavelengths at better S/N (rebin x2)		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
22	22.62	CH Limb SnS	0416015	4	Off Limb (2" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.66	CH Limb SnS	0416015	4	Off Limb (4" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.70	CH Limb SnS	0416015	4	Off Limb (6" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.74	CH Limb SnS	0416015	4	Off Limb (8" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.78	CH Limb SnS	0416015	4	Off Limb (10" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.82	CH Limb SnS	0416015	4	Off Limb (12" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.87	CH Limb SnS	0416015	4	Off Limb (15" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
22	22.91	CH Limb SnS	0416015	4	Off Limb (20" Above)	1.00	0.00	90			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
23	23.08	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
23	23.15	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
23	23.23	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
23	23.30	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
23	23.41	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
23	23.52	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	S	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
23	23.58	Fans Dynamics Deep	0204010	20	AR Fan	1.50	0.00		Y	Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
23	23.64	Fans SnS	0204015	2	AR Fan	1.00	0.46		Y	Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
23	23.70	Fans SnS EW	0204015	2	AR Fan	1.00	0.46	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
23	23.85	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	S	Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
24	24.03	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordina ion?	t Raster description
24	24.15	Flat Field	9000000	10,800	Disk Center	3.00	0.00			Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
24	24.82	Full Disk PR Shots	0074325	180	Full disk mosaic 15x15 pointings	11.25	4.73			Every 3 days		Full disk mosaic		Very large raster Deep x 2 Spatial x 2, Spectral x 8 C II Mg II h/k Mg II w s
24	24.87	Prominence Dynamics	0200032	2	Prominence (2 Step - 0.33"; bottom)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
24	24.93	Prominence Dynamics	0200032	2	Prominence (2 Step - 0.33"; middle)	0.75	0.57	SPAL			WFCM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
24	24.98	Prominence Dynamics	0200032	2	Prominence (2 Step - 0.33"; top)	0.75	0.57	SPAL			WFCM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.04	Prominence Dynamics	0200032	2	Prominence (2 Step - 1"; bottom)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.09	Prominence Dynamics	0200032	2	Prominence (2 Step - 1"; middle)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.15	Prominence Dynamics	0200032	2	Prominence (2 Step - 1"; top)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.20	Prominence Dynamics	0200032	2	Prominence (2 Step - 2"; bottom)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.26	Prominence Dynamics	0200032	2	Prominence (2 Step - 2"; middle)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.31	Prominence Dynamics	0200032	2	Prominence (2 Step - 2": top)	0.75	0.57	SPAL			W F CM	Wave/Mass Transport in prominence		Two-step raster FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.49	AR Properties Deep	0208313	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
25	25.55	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
25	25.64	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
25	25.70	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
25	25.81	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.92	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS	6	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
25	25.98	Spot Dynamics Deep	0206010	40	Sunspot	1.50	0.00		Y	Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,)	)	Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
26	26.03	Spot SnS	0206015	4	Sunspot	1.00	0.00		Y	Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
26	26.07	Spot SnS EW	0206015	4	Sunspot	1.00	0.00	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
26	26.22	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours	3	Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
26	26.39	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
26	26.83	Limb to limb	0408330	1,000	Equator	5.00	5.39	90		Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
26	26.99	Limb to limb	0408331	400	Equator	2.00	1.87	90		Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
27	27.42	Limb to limb	0408330	1,000	Central Meridian	5.00	5.39			Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
27	27.58	Limb to limb	0408331	400	Central Meridian	2.00	1.87			Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s
27	27.63	QS Limb SnS	0416015	4	Off Limb (2" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.67	QS Limb SnS	0416015	4	Off Limb (4" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.71	QS Limb SnS	0416015	4	Off Limb (6" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.75	QS Limb SnS	0416015	4	Off Limb (8" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.79	QS Limb SnS	0416015	4	Off Limb (10" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.83	QS Limb SnS	0416015	4	Off Limb (12" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.88	QS Limb SnS	0416015	4	Off Limb (15" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
27	27.92	QS Limb SnS	0416015	4	Off Limb (20" Above)	1.00	0.00	SPAL			W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare Deep x 4 Spatial x 1, Spectral x 2 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
28	28.09	QS Properties	0208413	5,400	QS mu = 0.4	1.50	2.73		Y	Semi-	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
28	28.13	QS Dynamics	0206010	40	QS mu = 0.4	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Science Topics	Science description	coordinat ion?	Raster description
28	28.18	QS SnS	0204015	2	QS mu = 0.4	0.75	0.35		Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
28	28.23	QS SnS	0204015	2	QS mu = 0.4	0.75	0.35	90	Υ	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
28	28.40	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
28	28.47	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
28	28.55	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w
28	28.61	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y	Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
28	28.72	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
28	28.84	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y	Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
28	28.90	Fans Dynamics Deep	0204010	20	AR Fan	1.50	0.00		Υ	Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
28	28.96	Fans SnS	0204015	2	AR Fan	1.00	0.46		Υ	Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.02	Fans SnS EW	0204015	2	AR Fan	1.00	0.46	90	Y	Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.17	AR Raster Timeseries	0200413	540	AR 14 day track	0.75	2.86		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns: repeated to track changes over course of 6 hours		Very large (175") raster FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
29	29.35	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Repeat deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
29	29.39	QS Spicule Propagation	0000035	3	Limb (3 Step - 0.33"; 10" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.44	QS Spicule Propagation	0000035	3	Limb (3 Step - 0.33"; 5" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.46	QS Spicule Propagation	0204035	6	Limb (3 Step - 0.33"; 10" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.48	QS Spicule Propagation	0204035	6	Limb (3 Step - 0.33"; 5" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.53	QS Spicule Propagation	0000036	3	Limb (3 Step - 1"; 10" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.58	QS Spicule Propagation	0000036	3	Limb (3 Step - 1"; 5" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.60	QS Spicule Propagation	0204036	6	Limb (3 Step - 1"; 10" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.62	QS Spicule Propagation	0204036	6	Limb (3 Step - 1"; 5" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.67	QS Spicule Propagation	0000037	3	Limb (3 Step - 2"; 10" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.72	QS Spicule Propagation	0000037	3	Limb (3 Step - 2"; 5" Above limb)	0.50	0.64	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
29	29.74	QS Spicule Propagation	0204037	6	Limb (3 Step - 2"; 10" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.76	QS Spicule Propagation	0204037	6	Limb (3 Step - 2"; 5" Above)	0.50	0.00	SPAL				Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
29	29.88	Flat Field	9000000	10,800	Disk Center	3.00	0.00			Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
30	30.06	QS Properties	0208413	5,400	QS mu = 0.3	1.50	2.73		Y	Semi- daily	W CB CM SW FE SP IR	Deep full WL raster to characterize QS Properties in all wavelengths at reasonable S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
30	30.10	QS Dynamics	0206010	40	QS mu = 0.3	1.00	0.00		Y	Semi- daily	W CB CM SW FE SP IR	QS dynamics in small region: spicules, TR downflows, nanoflare effects, waves/upflows, chromospheric heating dynamics		Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
30	30.15	QS SnS	0204015	2	QS mu = 0.3	0.75	0.35		Υ	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
30	30.19	QS SnS	0204015	2	QS mu = 0.3	0.75	0.35	90	Y	Semi- daily	W CB CM SW FE SP IR	Fast sit and stare TS with slit EQ to avoid tracking artefacts: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
30	30.23	Filament Dynamics	0004010	20	Polar crown filament	1.00	0.00				W F CM	Filament dynamics in small region: waves, convective flows, heating to high temperatures		Small (3") raster Deep x 2 C II Si IV Mg II h/k Mg II w
30	30.32	Filament SnS	0004015	2	Polar crown filament	0.75	1.25				W F CM	Fast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 C II Si IV Mg II h/k Mg II w
30	30.40	Filament SnS	0004015	2	Polar crown filament	0.75	1.25	SPEO			W F CM	Fast sit and stare TS with slit perpendicular to long axis of filament: same topics as previous OBS + high frequency waves		Medium sit-and-stare Deep x 2 C II Si IV Mg II h/k Mg II w
30	30.58	AR Properties Deep	0208313	5,400	AR 14 day track	1.50	2.73		Y	Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
30	30.64	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y	Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
30	30.72	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Υ	Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track Repea	t Science Topics	Science description	coordinat ion?	t Raster description
30	30.79	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
30	30.90	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
31	31.01	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previou OBS	S	Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
31	31.07	Spot Dynamics Deep	0206010	40	Sunspot	1.50	0.00		Y Daily	W CB CM SP	Slower, deep small raster: sunspot chromo-coro dynamics (umbral flashes, oscillations,	)	Small (3") raster Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
31	31.11	Spot SnS	0206015	4	Sunspot	1.00	0.00		Y Daily	W CB CM SP	Superfast sit and stare TS: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
31	31.15	Spot SnS EW	0206015	4	Sunspot	1.00	0.00	90	Y Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: sunspot chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
31	31.22	Spot Oscillations Propagation	0000032	2	Spot fan (2 Step - 0.33"; middle)	0.50	1.17	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.29	Spot Oscillations Propagation	0000032	2	Spot fan (2 Step - 0.33"; bottom)	0.50	1.17	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.34	Spot Oscillations Propagation	0000033	2	Spot fan (2 Step - 1"; middle)	0.50	0.64	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.39	Spot Oscillations Propagation	0000034	2	Spot fan (2 Step - 2"; middle)	0.50	0.64	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.44	Spot Oscillations Propagation	0000033	2	Spot fan (2 Step - 1"; bottom)	0.50	0.64	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.48	Spot Oscillations Propagation	0000034	2	Spot fan (2 Step - 2"; bottom)	0.50	0.64	SPAL		W CM S SP	Sunspot oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
31	31.58	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	-90		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
31	31.67	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-75		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
31	31.77	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	-60		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
31	31.86	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	-45		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
31	31.96	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-30		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.05	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-15		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.15	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	0		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.24	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	15		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.34	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	30		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.43	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	45		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.53	Angled L2L	0016031	160	Cruciform scan along radius. 15 ptngs	0.75	1.52	60		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.62	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	75		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.72	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	90		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
32	32.83	AR Limb SnS	0200015	1	Off Limb (2" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
32	32.94	AR Limb SnS	0200015	1	Off Limb (4" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.05	AR Limb SnS	0200015	1	Off Limb (6" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.16	AR Limb SnS	0200015	1	Off Limb (8" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.27	AR Limb SnS	0200015	1	Off Limb (10" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.38	AR Limb SnS	0200015	1	Off Limb (12" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.49	AR Limb SnS	0200015	1	Off Limb (15" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.60	AR Limb SnS	0200015	1	Off Limb (20" Above)	1.00	1.66	SPAL		W CM SW SP	Statistical Study of evolution of spicules from chromospheric to TR and coronal temperatures		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
33	33.78	AR Properties Deep	0208413	5,400	AR 14 day track	1.50	2.73		Y Daily	W CB CM SW FE SP	Track AR as it crosses disk from center to limb or limb to limb: start with deep, full WL raster to characterize spectral line profiles at high S/N		Very large (175") raster Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 Si IV Mg II h/k Mg II w s
33	33.84	AR Raster Timeseries	0206321	720	AR 14 day track	0.75	0.82		Y Daily	W CB CM SW FE SP	Dynamic evolution of "slow" rasters across full AR: upflow/downflow patterns, upflows/ waves, chromo/corona heating patterns		Very large raster Deep x 4 FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s
33	33.93	Plage Dynamics	0000010	10	AR Plage	1.50	0.50		Y Daily	W CB CM SW FE SP	Fast small raster: moss dynamics, spicules, nanoflare effects, chromo-coro heating patterns		Small (3") raster CII Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track Repea	t Science Topics	Science description	coordinat ion?	Raster description
33	33.99	Plage Dynamics Deep	0006010	40	AR Plage	1.50	0.00		Y Daily	W CB CM SW FE SP	Slower, deep small to get better Fe XII counts: moss, spicules, 5 min wave leakage, nanoflares, chromo-coro patterns		Small (3") raster Deep x 4 C II Si IV Mg II h/k Mg II w
34	34.10	Plage SnS	0200015	1	AR Plage	1.00	1.66		Y Daily	W CB CM SW FE SP	Superfast sit and stare TS: same topics as previous OBS + high frequency waves		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
34	34.21	Plage SnS EW	0200015	1	AR Plage	1.00	1.66	90	Y Daily	W CB CM SW FE SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: same topics as previous OBS		Medium sit-and-stare FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
34	34.28	Fans Dynamics Deep	0204010	20	AR Fan	1.50	0.00		Y Daily	W CB CM SP	Slower, deep small raster: fan chromo-coro dynamics (outflows, waves/flows,)		Small (3") raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
34	34.34	Fans SnS	0204015	2	AR Fan	1.00	0.46		Y Daily	W CB CM SP	Superfast sit and stare TS: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
34	34.40	Fans SnS EW	0204015	2	AR Fan	1.00	0.46	90	Y Daily	W CB CM SP	Superfast sit and stare TS with slit EW to avoid tracking artefacts: fan chromo-coro dynamics + high frequency waves		Medium sit-and-stare Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
34	34.47	Fan Oscillations Propagation	0000032	2	Spot fan (2 Step - 0.33"; middle)	0.50	1.17	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
34	34.54	Fan Oscillations Propagation	0000032	2	Spot fan (2 Step - 0.33"; bottom)	0.50	1.17	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
34	34.58	Fan Oscillations Propagation	0000033	2	Spot fan (2 Step - 1"; middle)	0.50	0.64	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
34	34.63	Fan Oscillations Propagation	0000034	2	Spot fan (2 Step - 2"; middle)	0.50	0.64	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
34	34.68	Fan Oscillations Propagation	0000033	2	Spot fan (2 Step - 1"; bottom)	0.50	0.64	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
34	34.73	Fan Oscillations Propagation	0000034	2	Spot fan (2 Step - 2"; bottom)	0.50	0.64	SPAL		W CM S SP	Fan oscillations		Two-step raster CII Si IV Mg II h/k Mg II w
35	35.06	AR flare watch	2400010	10	AR likely to flare	8.00	0.00	90	Y Daily	W FL S CM	Flare response of AR		Small (3") raster FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w AEC enabled
35	35.43	AR flare watch	2400311	20	AR likely to flare	8.00	0.94	90	Y Daily	W FL S CM	Flare response of AR		Medium (6") raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
35	35.76	AR flare watch	2400026	10	AR likely to flare	8.00	0.00	90	Y Daily	W FL S CM	Flare response of AR		Small raster FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w AEC enabled
36	36.15	AR flare watch	2400327	20	AR likely to flare	8.00	1.24	90	Y Daily	W FL S CM	Flare response of AR		Medium raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
36	36.75	AR flare watch	2030328	60	AR likely to flare	8.00	6.30	90	Y Daily	W FL S CM	Flare response of AR		Large raster Spatial x 1, Spectral x 8 C II Mg II h/k Mg II w s AEC enabled
36	36.79	CH Spicule Propagation	0000035	3	Limb (3 Step - 0.33"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
36	36.84	CH Spicule Propagation	0000035	3	Limb (3 Step - 0.33"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
36	36.86	CH Spicule Propagation	0204035	6	Limb (3 Step - 0.33"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
36	36.88	CH Spicule Propagation	0204035	6	Limb (3 Step - 0.33"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
36	36.93	CH Spicule Propagation	0000036	3	Limb (3 Step - 1"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
36	36.98	CH Spicule Propagation	0000036	3	Limb (3 Step - 1"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
36	37.00	CH Spicule Propagation	0204036	6	Limb (3 Step - 1"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
37	37.02	CH Spicule Propagation	0204036	6	Limb (3 Step - 1"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
37	37.07	CH Spicule Propagation	0000037	3	Limb (3 Step - 2"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
37	37.11	CH Spicule Propagation	0000037	3	Limb (3 Step - 2"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster CII Si IV Mg II h/k Mg II w
37	37.14	CH Spicule Propagation	0204037	6	Limb (3 Step - 2"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
37	37.16	CH Spicule Propagation	0204037	6	Limb (3 Step - 2"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in spicules (propagation)		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
37	37.28	Flat Field	9000000	10,800	Disk Center	3.00	0.00		Semi- Daily	N/A	Flat-Fielding Detector Characterization		C II Si IV Mg II h/k Mg II w Flatfield and calibration
37	37.95	Full Disk PR Shots	0074325	180	Full disk mosaic 15x15 pointings	11.25	4.73		Every 3 days	5	Full disk mosaic		Very large raster Deep x 2 Spatial x 2, Spectral x 8 C II Mg II h/k Mg II w s
38	38.59	Limb to limb	0408030	1,000	Equator	5.00	10.44	90	Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
38	38.90	Limb to limb	0208031	400	Equator	2.00	5.38	90	Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
39	39.54	Limb to limb	0408030	1,000	Central Meridian	5.00	10.44		Weekly	IR W CB CM SW FE F SP	Center to Limb dense - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30", SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w
39	39.85	Limb to limb	0208031	400	Central Meridian	2.00	5.38		Weekly	IR W CB CM SW FE F SP	Center to Limb coarse - Proto. SYNOP Prog.	Hinode synoptic	Synoptic raster (30",SG) Full wavelength coverage, deep x4 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
39	39.90	Prominence Propagation	0000035	3	Limb (3 Step - 0.33"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat Science Topics	Science description	coordinat ion?	Raster description
39	39.94	Prominence Propagation	0000035	3	Limb (3 Step - 0.33"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w
39	39.96	Prominence Propagation	0204035	6	Limb (3 Step - 0.33"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
39	39.99	Prominence Propagation	0204035	6	Limb (3 Step - 0.33"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
40	40.03	Prominence Propagation	0000036	3	Limb (3 Step - 1"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w
40	40.08	Prominence Propagation	0000036	3	Limb (3 Step - 1"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w
40	40.10	Prominence Propagation	0204036	6	Limb (3 Step - 1"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
40	40.12	Prominence Propagation	0204036	6	Limb (3 Step - 1"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
40	40.17	Prominence Propagation	0000037	3	Limb (3 Step - 2"; 10" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w
40	40.22	Prominence Propagation	0000037	3	Limb (3 Step - 2"; 5" Above limb)	0.50	0.64	SPAL			Wave/Mass Transport in prominence		Three-step raster CII Si IV Mg II h/k Mg II w
40	40.24	Prominence Propagation	0204037	6	Limb (3 Step - 2"; 10" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
40	40.26	Prominence Propagation	0204037	6	Limb (3 Step - 2"; 5" Above)	0.50	0.00	SPAL			Wave/Mass Transport in prominence		Three-step raster Deep x 2 FUV spectrally rebinned x 2 C II Si IV Mg II h/k Mg II w
40	40.76	AR flare watch	2400010	10	AR likely to flare	12.00	0.00	90	Y	Daily W FL S CM	Flare response of AR		Small (3") raster FUV spectrally rebinned x 4 C II Si IV Mg II h/k Mg II w AEC enabled
41	41.32	AR flare watch	2400311	20	AR likely to flare	12.00	1.40	90	Y	W FL S CM Daily	Flare response of AR		Medium (6") raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
41	41.82	AR flare watch	2200326	10	AR likely to flare	12.00	0.00	90	Y	Daily W FL S CM	Flare response of AR		Small raster FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s AEC enabled
42	42.40	AR flare watch	2400327	20	AR likely to flare	12.00	1.87	90	Y	W FL S CM	Flare response of AR		Medium raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
42	42.97	AR flare watch	2400327	20	AR likely to flare	12.00	1.87	90	Y	Daily W FL S CM	Flare response of AR		Medium raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
43	43.07	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-90		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.16	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-75		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.26	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-60		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.35	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-45		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.45	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-30		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.54	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	-15		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.64	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	0		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.73	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	15		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.83	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	30		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
43	43.92	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	45		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
44	44.02	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	60		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
44	44.11	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	75		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
44	44.20	Angled L2L	0016031	160	Cruciform scan along radius, 15 ptngs	0.75	1.52	90		W CB CM SW FE SP IR	Limb to limb at various angles		Synoptic raster (30",SG) Deep x 4 Spatial x 1, Spectral x 2 C II Si IV Mg II h/k Mg II w
44	44.71	AR flare watch	2200310	10	AR likely to flare	12.00	0.07	90	Y	Daily W FL S CM	Flare response of AR		Small (3") raster FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s AEC enabled
45	45.27	AR flare watch	2400311	20	AR likely to flare	12.00	1.40	90	Y	Daily W FL S CM	Flare response of AR		Medium (6") raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
45	45.77	AR flare watch	2200326	10	AR likely to flare	12.00	0.00	90	Y	Daily W FL S CM	Flare response of AR		Small raster FUV spectrally rebinned x 2 C II Mg II h/k Mg II w s AEC enabled
46	46.34	AR flare watch	2400327	20	AR likely to flare	12.00	1.87	90	Y	Daily W FL S CM	Flare response of AR		Medium raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled
46	46.92	AR flare watch	2400327	20	AR likely to flare	12.00	1.87	90	Y	Daily W FL S CM	Flare response of AR		Medium raster FUV spectrally rebinned x 4 C II Mg II h/k Mg II w s AEC enabled

Day	Fday	Description	Obs ID	Cad (s)	target	obs time (hr)	dl time (hr)	roll?	rot track	Repeat	Scie	ence Topics	Science description	coordinat ion?
					Total Download Hours	485.37								
					Total Obs Days	45.92								

OBS ID	Size + description	Step size	Cadence (s)	OBS ID	Size + description	Impact on cadence (>1 = slower)	Impact on SG datarate	Impact on SJI datarate
0			10800	0	CII SiIV MgIIh/k MgIIw	1	1	1
10	Small (3") raster	dense (0.33")	10	100	CII SilV Mgllh/k Mgllws	1	1	0.791666666666666
11	Medium (6") raster	dense	20	200	CII SilV Mgllws	1	1	0.541666666666666
12	Large (20") raster	dense	60	300	Cli Mglih/k Mgliwis	1	1	0.541666666666666
13	Very large (175") raster	dense	540	400	SilV Mgllh/k Mgllws	1	1	0.541666666666666
14	Small sit-and-stare	sns	1	500	CII MgIIws	1	1	0.291666666666666
15	Medium sit-and-stare	sns	1	600	Si IV Mg II w s	1	1	0.291666666666666
16	Large sit-and-stare	sns	1	700	Mg II h/k Mg II w s	1	1	0.291666666666666
17	Very large sit-and-stare	sns	1	800	Si IV Mg II h/k Mg II w	1	1	0.75
18	Small raster	sparse (1")	10	900	CII MgIIh/k MgIIw	1	1	0.75
19	Medium raster	sparse	20	1000	Si IV Mg II h/k Mg II w	1	1	0.75
20	Large raster	sparse	60	1100	C II Si IV Mg II h/k	1	1	0.75
21	Very large raster	sparse	180	1200	C II Si IV	1	1	0.5
22	Small raster	coarse (2")	10	1300	C II Mg II h/k	1	1	0.5
23	Medium raster	coarse	20	1400	Si IV Mg II h/k	1	1	0.5
24	Large raster	coarse	60	1500	CII	1	1	0.25
25	Very large raster	coarse	90	1600	Si IV	1	1	0.25
26	Small raster	sparse/dense/sparse	10	1700	Mg II h/k	1	1	0.25
27	Medium raster	sparse/dense/sparse	20	1800	Mg II w	1	1	0.25
28	Large raster	sparse/dense/sparse	60	1900	CII SilV's MgIIh/k MgIIw's	1	1	0.58333333333333
29	Very large raster	sparse/dense/sparse	300	0		1	1	1
30	Synoptic raster (30", SG)	dense	100	2000	Full wavelength coverage	3	1.49761904761905	1
31	Synoptic raster (30",SG)	sparse	40	4000	Deep x 2	2	0.5	1
32	Two-step raster	dense	2	6000	Deep x 4	4	0.25	1
33	Two-step raster	sparse (1")	2	8000	Full wavelength coverage, deep x4	10	0.449285714285714	1
34	Two-step raster	coarse (2")	2	0		1	1	1
35	Three-step raster	dense (0.33")	3	10000	Spatial x 1, Spectral x 2	1	0.5	1
36	Three-step raster	sparse (1")	3	20000	Spatial x 1, Spectral x 4	1	0.25	1
37	Three-step raster	coarse (2")	3	30000	Spatial x 1, Spectral x 8	1	0.125	1
				40000	Spatial x 2, Spectral x 1	1	0.5	1
				50000	Spatial x 2, Spectral x 2	1	0.25	1
				60000	Spatial x 2, Spectral x 4	1	0.125	1
				70000	Spatial x 2, Spectral x 8	1	0.0625	1
				80000	Spatial x 4, Spectral x 1	1	0.25	1
				90000	Spatial x 4, Spectral x 2	1	0.125	1
				110000			0.0025	1
				0		1	1	1
				200000	ELIV spectrally rehipped x 2		0.5	1
				400000	FLIV spectrally rebinned x 4	1	0.25	1
				0	1 of openany reprinted x +	. 1	1	1
				1000000	Lossless compression	1	1.5	1.5
				2000000	AEC enabled	1	1.5	1.5
				3000000	SJI cadence 2x faster	1	1	2
				4000000	SJI cadence 4x faster	1	1	4
				5000000	SJI cadence 10x faster	1	1	10
				9000000	Flatfield and calibration	1	1	1

OBS ID	CII	Si IV	Mg II h/k	Mg II wing	Description	Average cadence [images/s]
0	10	10	10	10	CII SilV MgIIh/k MgIIw	0.4
100	10	10	10	60	CII SiIV MgIIh/k MgIIws	0.316666666666666
200	10	10	0	60	CII SilV MgIIws	0.216666666666666
300	10	0	10	60	Cli Mglih/k Mgliwis	0.216666666666666
400	0	10	10	60	SilV Mgllh/k Mgllws	0.216666666666666
500	10	0	0	60	CII MgIIws	0.116666666666666
600	0	10	0	60	SilV Mgllws	0.116666666666666
700	0	0	10	60	Mg II h/k Mg II w s	0.116666666666666
800	0	10	10	10	SilV Mgllh/k Mgllw	0.3
900	10	0	10	10	Cli Mglih/k Mgliw	0.3
1000	0	10	10	10	SilV Mgllh/k Mgllw	0.3
1100	10	10	10	0	CII Si IV Mg II h/k	0.3
1200	10	10	0	0	C II Si IV	0.2
1300	10	0	10	0	C II Mg II h/k	0.2
1400	0	10	10	0	Si IV Mg II h/k	0.2
1500	10	0	0	0	СІІ	0.1
1600	0	10	0	0	Si IV	0.1
1700	0	0	10	0	Mg II h/k	0.1
1800	0	0	0	10	Mg II w	0.1
1900	10	60	10	60	CII SilVs MgIIh/k MgIIws	0.23333333333333333
	CII	Si IV	Mg II h/k	Mg II w		

OBS ID	Size + description	Impact on cadence (>1 = slower)	Impact on SG datarate	Impact on SJI datarate	
0	CII SilV MgIIh/k MgIIw	1	1.00	1.00	
100	CII SilV Mgllh/k Mgllws	1	1.00	0.79	
200	CII SilV MgIIws	1	1.00	0.54	
300	Cli Mglih/k Mgliw s	1	1.00	0.54	
400	SilV Mgllh/k Mgllws	1	1.00	0.54	
500	CII MgIIw s	1	1.00	0.29	
600	SilV Mg II w s	1	1.00	0.29	
700	Mgllh/k Mgllws	1	1.00	0.29	
800	SiIV MgIIh/k MgIIw	1	1.00	0.75	
900	CII MgIIh/k MgIIw	1	1.00	0.75	
1000	SiIV MgIIh/k MgIIw	1	1.00	0.75	
1100	C II Si IV Mg II h/k	1	1.00	0.75	
1200	C II Si IV	1	1.00	0.50	
1300	C II Mg II h/k	1	1.00	0.50	
1400	Si IV Mg II h/k	1	1.00	0.50	
1500	СІІ	1	1.00	0.25	
1600	Si IV	1	1.00	0.25	
1700	Mg II h/k	1	1.00	0.25	
1800	Mg II w	1	1.00	0.25	
1900	CII SilVs MgIIh/k MgIIws	1	1.00	0.58	
2000	Full wavelength coverage	3	1.50	1.00	
4000	Deep x 2	2	0.50	1.00	
6000	Deep x 4	4	0.25	1.00	
8000	Full wavelength coverage, deep x4	10	0.45	1.00	
10000	Spatial x 1, Spectral x 2	1	0.50	1.00	
20000	Spatial x 1, Spectral x 4	1	0.25	1.00	
30000	Spatial x 1, Spectral x 8	1	0.13	1.00	
40000	Spatial x 2, Spectral x 1	1	0.50	1.00	
50000	Spatial x 2, Spectral x 2	1	0.25	1.00	
60000	Spatial x 2, Spectral x 4	1	0.13	1.00	
70000	Spatial x 2, Spectral x 8	1	0.06	1.00	
80000	Spatial x 4, Spectral x 1	1	0.25	1.00	
90000	Spatial x 4, Spectral x 2	1	0.13	1.00	
100000	Spatial x 4, Spectral x 4	1	0.06	1.00	
110000	Spatial x 4, Spectral x 8	1	0.03	1.00	
200000	FUV spectrally rebinned x 2	1	0.50	1.00	
400000	FUV spectrally rebinned x 4	1	0.25	1.00	
1000000	Lossless compression	1	1.50	1.50	
2000000	AEC enabled	1	1.50	1.50	
3000000	SJI cadence 2x faster	1	1.00	2.00	
4000000	SJI cadence 4x faster	1	1.00	4.00	
5000000	SJI cadence 10x faster	1	1.00	10.00	
9000000	Flatfield and calibration	1	1.00	1.00	

OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	Description	Total Datarate (Mbit/ s)
10	default	0.33"	3"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	Small dense raster	1.1
11	default	0.33"	6"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	Medium dense raster	2.3
12	default	0.33"	20"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	Large dense raster	5.3
13	default	0.33"	1	540s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Very large dense raster	8.0
14	default	0.33"	0.3"x30"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	Small sit-and-stare	2.1
15	default	0.33"	0.3"x60"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	Medium sit-and-stare	4.3
16	default	0.33"	0.3"x120"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	Large sit-and-stare	9.1
17	default	0.33"	0.3"x175"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Very large sit-and-stare	13.8
18	default	1"	9"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	Small sparse raster	1.1
19	default	1"	18"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	Medium sparse raster	2.3
20	default	1"	60"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	Large sparse raster	5.2

OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	Description	Total Datarate (Mbit/ s)
21	default	1"	175"x175"	180s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Very large sparse raster	7.9
22	default	2"	18"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	Small coarse raster	1.1
23	default	2"	36"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	Medium coarse raster	2.3
24	default	2"	120"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	Large coarse raster	5.2
25	default	2"	175"x175"	90s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Very large coarse raster	8.0
26	default	1" 0.3" 1"	2"x30" 1.8"x30" 2"x30" t: 5.8"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	Small sparse/dense/sparse raster	1.1
27	default	1" 0.3" 1"	4"x60" 3.6"x60" 4"x60" t: 11.6"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	Medium sparse/dense/sparse raster	2.4
28	default	1" 0.3" 1"	12"x120" 12"x120" 12"x120" t: 36"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	Large sparse/dense/sparse raster	5.1
29	default	1" 0.3" 1"	60"x175" 60"x175" 60"x175" t:180"x175"	300s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Very large sparse/dense/sparse raster	13.1
30	default	0.33"	35"x175"	100s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Synoptic dense raster	8.5
31	default	1"	35"x175"	40s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	Synoptic sparse raster	7.4
32	default	0.33"	0.66"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Two-step dense raster	2.8
33	default	1"	1"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Two-step sparse raster	1.9

OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	Description	Total Datarate (Mbit/ s)
34	default	2"	2"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Two-step coarse raster	1.9
35	default	0.33"	0.66"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Three-step dense raster	1.9
36	default	1"	2"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Three-step sparse raster	1.9
37	default	2"	4"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	Three-step coarse raster	1.9

OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	SJI Datarate	SG datarate	
10	default	0.33"	3"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	0.05184	1.01716363636364	
11	default	0.33"	6"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	0.20736	1.93352727272727	
12	default	0.33"	20"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	0.82944	4.13992727272727	
13	default	0.33"	175"x175"	540s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	5.78529966329966	



OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	SJI Datarate	SG datarate	
14	default	0.33"	0.3"x30"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	0.05184	1.92436363636364	
15	default	0.33"	0.3"x60"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	0.20736	3.8487272727272727	
16	default	0.33"	0.3"x120"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	0.82944	7.69745454545455	
17	default	0.33"	0.3"x175"	1s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	11.2254545454545	
18	default	1"	9"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	0.05184	1.008	
19	default	1"	18"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	0.20736	1.9152	
20	default	1"	60"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	0.82944	4.0992	
21	default	1"	175"x175"	180s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	5.749333333333333	
22	default	2"	18"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	0.05184	1.008	
23	default	2"	36"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	0.20736	1.9152	
24	default	2"	120"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	0.82944	4.0992	
25	default	2"	175"x175"	90s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	5.782	
26	default	1" 0.3" 1"	2"x30" 1.8"x30" 2"x30" t: 5.8"x30"	10s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	30"x30"	0.05184	1.008	

Total datarate
1.07620262626264
1.97620363636364
4.05608727272727
8.52689454545455
10.000/54545454545
12.969454545454545
1.05984
2.12256
4.92864
7.513333333333333
1.05984
2.12256
4 00004
4.92864
7.546
1.05984

OBS-ID	Spectral WL	Raster step	Raster FOV	Spectral cadence	SJI WL	SJI cad	SJI FOV	SJI Datarate	SG datarate	
27	default	1" 0.3" 1"	4"x60" 3.6"x60" 4"x60" t: 11.6"x60"	20s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	60"x60"	0.20736	2.016	
28	default	1" 0.3" 1"	12"x120" 12"x120" 12"x120" t: 36"x120"	60s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	120"x120"	0.82944	4.032	
29	default	1" 0.3" 1"	60"x175" 60"x175" 60"x175" t:180"x175"	300s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	10.584	
30	default	0.33"	35"x175"	100s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	6.29516363636364	
31	default	1"	35"x175"	40s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	175"x175"	1.764	5.292	
32	default	0.33"	0.66"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	2.52	
33	default	1"	1"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	1.68	
34	default	2"	2"x50"	2s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	1.68	
35	default	0.33"	0.66"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	1.68	
36	default	1"	2"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	1.68	
37	default	2"	4"x50"	3s	C II Si IV Mg II h/k Mg II wing	10s 10s 10s 10s	50"x50"	0.144	1.68	



SJI compression	SG compression	default SG pixels	base rate	rows 66 to 81 are sparse/ dense/sparse and column Al is special/ different
4	4	1,400	0.8	