SOLAR RADIO EMISSION
Spectral Observations

JULY 2000

Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
01	0000	0645	CULG								
			PALE	0158.0	0200.0	III		1	25	150	
			PALE	0308.0	0310.0	III		1	25	140	
			PALE	0400.0	0402.0	III		1	25	150	
			LEAR	0704.0	0704.0	III		1	25	48	
			LEAR	0727.0	0727.0	III		1	129	180	
	0548	1200	IZMI	0727.3U	0727.5	III	G	2	120	250	
			IZMI	0755.6	0755.8	III	B	2	200	270X	
	0440	1815	BLEN	0842.6	0843.7	III	GG,RS	2	220X	350	
			IZMI	0842.7	0843.9	III	GG	2	45	270X	
			SVTO	0843.0	0843.0	III		1	36U	83U	
	0000	1000	HIRA	0843.0	0844.0	III	B	1	50	260	
			IZMI	0845.2	0845.4	III	G	1	45	65	
			IZMI	1037.5	1037.8	III	G	2	50	145	
			SVTO	1038.0	1038.0	III		1	37	61	
			IZMI	1038.2	1038.5	III	G	2	45	165	
			IZMI	1042.5	1042.7	III	B	1	50	70	
			IZMI	1105.6	1107.4	III	G	2	45	160	
			SVTO	1119.0	1119.0	III		1	35	54	
			IZMI	1119.3	1119.7	III	G	1	25	270	
			IZMI	1123.1	1127.6	III	N	1	45	90	
			BLEN	1215.7	1220.6	III	RR,S	1	220X	350	
			SVTO	1231.0	1239.0	V		1	35	48	
			SGMR	1234.0	1235.0	III		2	30	55	
			BLEN	1236.1	1238.1	III	GG,U	1	440	550X	
	0605	1753	ONDR	1237.2	1238.5	DCIM		1	2020	4500X	
			HOLL	1629.0	1632.0	III		1	25	152	
			SVTO	1632.0	1632.0	III		1	39	84	
			PALE	1942.0	1943.0	III		1	25	72	
			SGMR	1942.0	1943.0	III		1	30	50	
			HOLL	2054.0	2056.0	III		1	25	86	
			SGMR	2055.0	2109.0	III	N	1	30	60	
			HOLL	2107.0	2109.0	III		1	25	180	
			PALE	2107.0	2109.0	III		1	25	180	
	1922	2400	HIRA	2107.0	2108.0	III	B	1	100	220	
	2110	2400	CULG	2134.0	2138.0	III	G	1	70	180	
			HIRA	2135.0	2138.0	III	G	1	80	200	
			CULG	2254.0	2255.0	III	G	1	25	160	
			LEAR	2332.0	2349.0	III	N	1	59	180	
			CULG	2346.0	2346.0	III	B	1	120	180	
			CULG	2349.0	2350.0	III	G	1	28	210	
			HIRA	2349.0	2350.0	III	B	1	50	220	
02	0000	0645	CULG	0053.0	0053.0	III	B	1	90	180	
			CULG	0353.0	0354.0	III	G	1	80	200	
			LEAR	0353.0	0354.0	III		1	77	180	
	0000	1000	HIRA	0353.0	0354.0	III	B	1	90	220	
			SVTO	0411.0	0411.0	III		1	35	85	
	0440	1815	BLEN	0434.7	0435.5	III	GG	1	200X	350	
			CULG	0543.0	0544.0	III	G	1	28	65	
			CULG	0552.0	0554.0	III	G	1	25	90	
			SVTO	0552.0	0559.0	III		1	35	85	
	0550	1200	IZMI	0552.0	0553.0	III	G	2	45	95	
			CULG	0558.0	0559.0	III	G	2	30	150	
			LEAR	0558.0	0559.0	III		1	25	136	
			IZMI	0558.3	0600.4	III	GG	2	45	170	
			CULG	0600.0	0606.0	III	G	1	30	75	
	0605	1752	ONDR								
			IZMI	0759.6	0800.5	III	G	1	45	160	
			LEAR	0800.0	0800.0	III		1	25	120	
			SVTO	0800.0	0802.0	III		1	35	70	
			IZMI	0838.3	0838.4	I	G	1	240	260	
			IZMI	0900.7U	0913.0U	I	N	1	200	270X	
			IZMI	0903.5	0903.7	III	G	1	240	270X	
			BLEN	1017.2	1018.0	III	GG	2	200X	380	
			IZMI	1104.7	1105.9	III	G	1	50	160	
			IZMI	1140.3	1142.2	I	N	1	200	240	
			BLEN	1309.6	1310.4	III	GG,S,RS	2	220X	400	
			HOLL	1457.0	1458.0	III		1	25	134	

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02			SGMR	1537.0	1540.0	V		1	30	80	
			HOLL	1544.0	1556.0	II		1	25	85	ESS 0931
			SGMR	1551.0	1556.0	II		1	30	72	ESS 0600
			HOLL	1901.0	1902.0	III		1	25	129	
			PALE	1901.0	1902.0	III		1	25	62	
			SGMR	1901.0	1902.0	III		1	30	60	
	1922	2400	HIRA	1951.0	1952.0	III	B	1	90	240	
	2110	2400	CULG	2121.0	2123.0	III	G	1	30	140	
			CULG	2158.0	2158.0	III	B	1	30	90	
03	0000	0645	CULG	0010.0	0010.0	III	B	1	23	90	
			CULG	0330.0	0336.0	III	G	1	28	90	
	0430	1810	BLEN								
			CULG	0603.0	0605.0	III	G	2	23	180	
			LEAR	0603.0	0604.0	III		2	25	180	
	0000	1000	HIRA	0603.0	0604.0	III	G	1	25X	200	
			IZMI	0603.2	0604.3	III	GG,C	2	25X	240	
			CULG	0607.0	0607.0	III	B	1	30	120	
			IZMI	0607.2	0607.4	III	B	1	50	135	
	0609	1752	ONDR								
			IZMI	0727.6	0728.7	III	G	2	45	190	
			IZMI	0800.3	0800.6	III	B,C	1	50	95	
			IZMI	0838.4	0838.9	III	G	1	50	90	
			IZMI	0901.7	0902.0	III	B	2	30	65	
			IZMI	1001.2	1001.5	III	B	1	25X	70	
			SGMR	1320.0	1320.0	III		1	30	60	
			HOLL	1719.0	1720.0	III		1	25	180	
			SGMR	1719.0	1720.0	III		1	30	80	
	1923	2400	HIRA								
	2110	2400	CULG	2119.0	2119.0	III	B	1	30	80	
			CULG	2337.0	2337.0	III	B	1	30	120	
			HOLL	2337.0	2337.0	III		1	25	138	
			PALE	2337.0	2337.0	III		1	30	55	
04	0000	1000	HIRA								
	0000	0645	CULG	0237.0	0238.0	III	G	1	30	90	
			CULG	0352.0	0353.0	III	G	1	60	180	
	0609	1753	ONDR								
	0445	1810	BLEN	0620.0	1530 X	I	DC	2	220X	350	
			LEAR	0923.0	0924.0	III		1	50	179	
	0603	1200	IZMI	1054.9	1056.6	I	N	2	120	150	
			IZMI	1057.2	1057.3	III	B	2	50	135	
			BLEN	1350.4	1350.7	III		2	260	450	
			SGMR	1414.0	1415.0	III		1	30	80	
			SVTO	1414.0	1429.0	III	N	1	35	85	
			HOLL	1510.0	1632.0	III	N	1	25	160	
			SVTO	1510.0	1759.0	CONT		1	35	85	
			SGMR	1511.0	1832.0	CONT		1	30	65	
	1924	2400	HIRA								
	2110	2400	CULG	2141.0	2142.0	III	G	1	30	80	
			CULG	2215.0	2247.0	I	S	1	130	180	
			HOLL	2226.0	2227.0	III		1	25	85	
			CULG	2227.0	2317.0	III	S	1	30	180	
			HOLL	2243.0	2248.0	II		1	31U	52U	ESS 1093
			HOLL	2252.0	2254.0	III		1	25	170	
			LEAR	2318.0	2318.0	III		1	45	115	
05			LEAR	0059.0	0108.0	III		1	25	180	
	0000	0650	CULG	0105.0	0105.0	III	B	2	40	180	
	0000	1000	HIRA	0105.0	0106.0	III	B	1	50	240	
			CULG	0224.0	0224.0	III	B	1	70	170	
	0418	1752	ONDR								
			LEAR	0419.0	0420.0	III		1	118	180	
	0445	1810	BLEN	0440 X	1530 X	I	DC	3	220X	450	
			LEAR	0506.0	0512.0	III		1	38	179	
			CULG	0507.0	0512.0	III	GG	1	28	300	
			HIRA	0510.0	0511.0	III	B	1	50	250	
			SVTO	0510.0	0511.0	III		1	37	85	
			BLEN	0535.5	0536.4	III	GG,J	2	220X	400	

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Day	OBSERVATION Start (UT)	OBSERVATION End (UT)	Sta	EVENT Start (UT)	EVENT End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	FREQUENCY Upper (MHz)	Remarks
05	0603	1200	IZMI	0610.0U	0816.0U	I	N	2	200	270X	
			IZMI	0654.4	0656.5	III	G	2	55	175	
			IZMI	0703.5	0703.5	III	B	1	50	90	
			IZMI	0706.0	0706.2	III	B	2	45	95	
			IZMI	0719.6	0719.9	III	G	1	45	170	
			SVTO	0815.0	0854.0	III	N	1	35	83	
			IZMI	0815.8	0816.0	III	B	1	45	95X	
			IZMI	0827.0	0827.1	III	B	1	45	85	
			IZMI	0833.8	0834.0	III	G	2	45	150	
			IZMI	0844.5	0844.8	III	G	2	30	270X	
			LEAR	0853.0	0853.0	III		1	52	180	
			IZMI	0853.5	0854.0	III	G	2	25X	160	
			IZMI	0941.0	0941.5	III	G	2	190	270	
			IZMI	0955.4	0955.9	I	GG	2	200	230	
			IZMI	1008.1	1008.4	I	GG	1	200	250	
			IZMI	1015.8	1017.0	III	GG	2	25	260	
			BLEN	1016.6	1021.7	III	GG	2	220X	400	
			IZMI	1021.5	1021.9	III	GG	2	45	270X	
			IZMI	1022.7	1025.5	III	GG	2	45	215	
			IZMI	1026.5	1028.3	I	N	1	200	250	
			IZMI	1111.7	1115.7	III	GG,FS	2	25	260	
			SGMR	1218.0	1219.0	III		1	30	80	
			BLEN	1340.3	1343.8	III	GG,RS,S	2	220X	550X	
			HOLL	1618.0	1619.0	III		1	25	84	
			SGMR	1618.0	1619.0	III		2	30	55	
			HOLL	1910.0	1912.0	III		1	25	180	
			PALE	1910.0	1912.0	III		2	25	180	
			SGMR	1910.0	1912.0	III		2	30	80	
			HOLL	1959.0	2002.0	III		1	25	180	
			PALE	1959.0	2003.0	III		2	25	180	
			SGMR	1959.0	2001.0	III		3	30	80	
	1924	2400	HIRA	2001.0	2002.0	III	B	2	25X	220	
	2110	2400	CULG	2110.0E	2400.0D	I	S	1	100	180	
			CULG	2136.0	2137.0	III	G	3	25	260	
			HIRA	2136.0	2137.0	III	B	3	25X	240	
			HOLL	2136.0	2137.0	III		2	25	180	
			PALE	2136.0	2137.0	III		2	25	180	
			SGMR	2136.0	2137.0	III		2	30	80	
			CULG	2143.0	2144.0	III	G	1	30	60	
			CULG	2208.0	2208.0	III	B	1	50	260	
			CULG	2311.0	2312.0	III	G	3	30	300	
			HIRA	2311.0	2312.0	III	B	2	30	300	
			HOLL	2311.0	2312.0	III		2	33	180	
			PALE	2311.0	2312.0	III		1	32	180	
			SGMR	2311.0	2311.0	III		1	65	80	
			CULG	2319.0	2319.0	III	B	1	30	130	
			HOLL	2319.0	2326.0	III		1	25	134	
			LEAR	2322.0	0115.0	CONT		1	70	180	
			CULG	2325.0	2326.0	III	G	1	25	150	
06	0000	0650	CULG	0000.0E	0650.0D	I	S	1	100	180	
			CULG	0051.0	0051.0	III	B	1	30	90	
			LEAR	0158.0	0158.0	III		1	55	157	
			CULG	0159.0	0159.0	III	B	1	35	150	
			CULG	0223.0	0240.0	III	N	1	18	160	
			LEAR	0232.0	0233.0	III		1	25	180	
			PALE	0232.0	0233.0	III		1	25	169	
			CULG	0255.0	0256.0	III	G	1	30	380	
			LEAR	0255.0	0256.0	III		1	84	180	
	0000	1000	HIRA	0255.0	0256.0	III	B	1	130	360	
			LEAR	0334.0	0848.0	CONT		1	79	180	
			CULG	0344.0	0529.0	III	N	1	28	180	
	0440	1815	BLEN	0440 X	1530 X	I	DC	3	220X	380	
			BLEN	0518.7	0519.8	III	GG,S	2	220X	360	
			SVTO	0520.0	0529.0	III		1	35	85	
			LEAR	0521.0	0524.0	III		1	25	126	
	0550	0840	IZMI	0550.0E	0840.0D	I	S	2	120N	270	
			SVTO	0556.0	1759.0	CONT		2	35	85	
			IZMI	0704.0	0840.0D	III	N	1	45	100	

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06			IZMI	0710.2	0711.1	III	GG,FS	2	45	170	
			HIRA	0716.0	0717.0	III	B	1	25X	220	
			LEAR	0716.0	0717.0	III		3	25	180	
			SVTO	0716.0	0717.0	III		3	35	85	
			IZMI	0716.4	0717.0	III	G	2	25X	270X	
			BLEN	0716.5	0716.9	III	III	2	220X	550X	
			IZMI	0735.8	0737.6	III	GG	2	25X	180	
			HIRA	0736.0	0737.0	III	B	2	50	200	
			LEAR	0736.0	0737.0	III		2	25	180	
			SVTO	0736.0	0737.0	III		1	35	85	
			IZMI	0743.5	0743.6	III	B	2	50	120	
			IZMI	0845.0E	1200.0D	III	N	1	45	100	
	0845	1200	IZMI	0845.0E	1200.0D	I	S	2	95	270X	
			IZMI	0847.7	0848.7	III	G,FS	2	50	170	
			IZMI	0911.6	0911.7	III	B	1	215	270X	
			IZMI	0942.1	0942.2	III	B	1	50	135	
			IZMI	1032.7	1032.9	III	G	1	45	160	
			SVTO	1055.0	1056.0	III		1	36	83	
			IZMI	1055.7	1056.6	III	G	2	40	240	
			BLEN	1226.0	1239.0	DCIM	C,P	3	250	550X	
			ONDR	1230.4	1240.5	DCIM	GG,FS	2	800X	2000X	
	0419	1751	ONDR	1235.3	1235.5	DCIM	GG	2	2000X	3934	
			SGMR	1236.0	1255.0	II		2	30	80	ESS 0600
			SVTO	1236.0	1257.0	II		1	35	85	ESS 0600
			HOLL	1237.0	1242.0	II		1	54	86	ESS 0603
			ONDR	1254.2	1327.0	DCIM	GG	1	800X	1962	
			BLEN	1303.0	1305.7	DCIM	P	2	300	550X	
			HOLL	1342.0	0107.0	CONT		1	25	180	
	1924	2400	HIRA								
			PALE	2028.0	2133.0	III	N	1	25	55	
			HOLL	2051.0	0107.0	III	N	1	25	140	
	2110	2400	CULG	2110.0E	2400.0D	III	S	2	30	180	
			LEAR	2322.0	0934.0	CONT		1	59	180	
07	0000	0655	CULG	0000.0E	0203.0	III	S	2	30	180	
			CULG	0203.0	0655.0D	III	S	1	30	180	
			PALE	0312.0	0325.0	III	N	1	25	180	
			LEAR	0313.0	0325.0	III	N	2	25	180	
			CULG	0318.0	0325.0	II	FN,H	2	18	100	
			CULG	0318.0	0325.0	II	SH,H	2	75	200	ESS 700
	0000	0959	HIRA	0318.0	0325.0	II		1	50	200	
			LEAR	0429.0	0431.0	III		1	25	124	
			SVTO	0429.0	0430.0	III		1	35	74	
			CULG	0430.0	0431.0	III	G	2	28	130	
			PALE	0430.0	0430.0	III		1	25	180	
	0440	1815	BLEN	0440 X	1530 X	I	DC	1	220X	400	
			SVTO	0459.0	0500.0	III		1	35	74	
			CULG	0510.0	0553.0	I	S	1	80	160	
			SVTO	0510.0	1705.0	CONT		1	35	85	
			CULG	0530.0	0538.0	III	GG	2	28	90	
			LEAR	0530.0	0538.0	III		1	25	127	
			LEAR	0544.0	0549.0	III		2	25	132	
			BLEN	0544.8	0549.4	DCIM	P	2	220X	550X	
			CULG	0545.0	0556.0	II	SH,H	2	40	130	ESS 700
			IZMI	0545.0E	0559.0	III	S	2	45U	95U	
			IZMI	0559.0E	1057.0	III	N	2	45	150	
	0559	1246	IZMI	0559.0E	1246.0D	I	S	2	40	270X	
			IZMI	0946.2	0946.4	III	B	2	45	135	
			ONDR	1013.0	1022.3	DCIM	GG	1	800X	1991	
			ONDR	1033.5	1118.1	DCIM	G	1	800X	2000X	
			IZMI	1057.0U	1129.4	III	N	2	25X	245	
			SVTO	1057.0	1120.0	III	N	2	35	85	
			SGMR	1059.0	1101.0	III		2	30	80	
			IZMI	1059.1	1101.6	III	GG	2	25X	250	
	0420	1751	ONDR	1059.1	1101.5	DCIM	G	1	2000X	4500X	
			SGMR	1114.0	1118.0	II		2	30	60	
			IZMI	1114.2	1118.7	III	GG	2	25X	160	
			BLEN	1114.5	1150.0	DCIM	C	1	220X	550X	
			ONDR	1115.0	1153.0	DCIM	G	1	2000X	4500X	

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07			IZMI	1129.0	1246.0D	III	S	2	45	270X	
			SGMR	1129.0	2359.0	CONT		1	30	80	
			ONDR	1130.3	1217.3	DCIM	GG,FS,SP	2	800X	2000X	
			HOLL	1352.0	1353.0	III		1	25	146	
			HOLL	1814.0	1835.0	III	N	1	25	180	
			SGMR	1814.0	1822.0	III		2	30	80	
			HOLL	1923.0	1932.0	III		2	25	180	
			PALE	1930.0	1932.0	III		2	25	180	
			PALE	2031.0	2310.0	III	N	2	25	180	
			SGMR	2055.0	2104.0	II		2	37	65	ESS 1000
	2110	2400	CULG	2110.0E	2400.0D	III	S,C	1	20	180	
			CULG	2124.0	2130.0	UNCLF		2	60	90	
			CULG	2213.0	2214.0	III	G	2	25	180	
			CULG	2309.0	2310.0	III	G	2	20	150	
			CULG	2359.0	2400.0	III	G	3	20	180	
08	0000	0655	CULG	0000.0E	0655.0D	III	S,C	1	20	180	
			CULG	0309.0	0311.0	III	G	2	18	300	
			LEAR	0309.0	0310.0	III		1	25	180	
			PALE	0309.0	0310.0	III		1	25	180	
	0123	0959	HIRA	0309.0	0311.0	III	G	1	25X	300	
	0440	1815	BLEN	0440 X	1530 X	I	DC,N,C	2	220X	550X	
			SVTO	0512.0	0517.0	III		1	35	85	
			HIRA	0516.0	0517.0	III	B	1	25X	100	
			LEAR	0516.0	0517.0	III		2	25	109	
			CULG	0517.0	0518.0	III	G	2	18	180	
			SVTO	0522.0	1758.0	CONT		1	35	85	
			IZMI	0601.0E	0812.0U	III	N	1	45	100	
	0601	1200	IZMI	0601.0E	1200.0D	I	S	2	80	270X	
			LEAR	0611.0	0614.0	III		1	76	110	
			HIRA	0629.0	0631.0	III	G	1	25X	180	
			LEAR	0629.0	0630.0	III		2	25	180	
			SVTO	0629.0	0631.0	III		2	35	85	
			BLEN	0629.6	0631.6	III	GG	2	220X	550X	
			IZMI	0629.6	0630.0	III	G,C	2	25X	265	
			CULG	0630.0	0631.0	III	G	3	20	250	
			IZMI	0630.1	0631.2	III	GG,C,FS	2	25	270X	
			HIRA	0719.0	0720.0	III	B	1	40	320	
			LEAR	0719.0	0727.0	III		1	25	180	
			SVTO	0719.0	0719.0	III		2	35	85	
			IZMI	0719.3	0719.4	III	G,C	3	25	270X	
	0420	1750	ONDR	0722.4	0733.5	DCIM	GG,SP	2	800X	2000X	
			IZMI	0723.2	0723.3	III	G	2	25	100	
			IZMI	0726.0	0727.5	III	GG,FS	2	25	170	
			HIRA	0727.0	0728.0	III	B	1	50	150	
			LEAR	0756.0	0759.0	III		2	25	180	
			SVTO	0756.0	0759.0	III		2	35	85	
			ONDR	0756.2	0821.1	DCIM	GG,SP	2	800X	2000X	
			IZMI	0756.3	0756.9	III	GG	2	25X	265	
			BLEN	0756.4	0759.2	III	GG,S,RS	2	220X	550X	
			IZMI	0756.9	0757.3	III	GG	2	25X	245	
			IZMI	0758.0	0758.6	III	G,FS	2	45	240	
			IZMI	0758.7	0759.2	III	G,FS	2	25X	270	
			IZMI	0907.0	0908.7	III	GG	2	45	100	
			IZMI	0944.6	0944.8	III	G	2	25	150	
			IZMI	0947.1	0947.2	III	B	1	25	100	
			ONDR	1005.5	1006.0	DCIM	G,SP	3	800X	1212	
			ONDR	1009.0	1009.1	DCIM	SP	3	800X	1072	
			ONDR	1037.3	1037.4	DCIM	G,SP	2	1109	1559	
			IZMI	1044.5	1044.7	III	B	1	45	100	
			IZMI	1104.0	1104.4	III	G	1	50	145	
			IZMI	1106.9	1107.0	III	B	1	45	95	
			SVTO	1120.0	1133.0	III	N	2	35	85	
			IZMI	1120.3	1120.5	III	B	2	25X	145	
			SGMR	1132.0	1133.0	III		1	30	70	
			BLEN	1132.6	1133.4	III	GG	2	220X	500	
			IZMI	1132.6	1133.2	III	GG,C,FS	2	25X	270X	
			ONDR	1202.0	1207.5	DCIM	GG	2	800X	1911	
			ONDR	1323.2	1323.3	DCIM	G	2	800X	1152	

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08			SGMR	1534.0	2358.0	CONT		1	30	60	
			HOLL	2017.0	2017.0	III		1	25	180	
			PALE	2017.0	2017.0	III		1	25	60	
	1926	2400	HIRA	2017.0	2018.0	III	B	1	25X	220	
	2110	2400	CULG	2110.0E	2307.0	III	S	1	28	180	
			CULG	2307.0	2328.0	III	S	2	28	180	
			HOLL	2307.0	0025.0	CONT		1	25U	150U	
			LEAR	2321.0	0635.0	CONT		1	25	180	
			CULG	2328.0	2400.0D	III	S	3	28	180	
			PALE	2349.0	0000.0	III	N	2	25	180	
			LEAR	2359.0	0000.0	III		1	25	180	
09	0000	0959	HIRA								
	0000	0700	CULG	0000.0E	0026.0	III	S	3	28	180	
			CULG	0026.0	0040.0	III	S	2	28	180	
			CULG	0040.0	0311.0	III	S	1	28	180	
			CULG	0311.0	0700.0D	I	S	1	100	180	
	0550	1200	IZMI	0550.0E	1200.0D	I	N	1	135	270	
	0421	1750	ONDR	0720.4	0723.1	DCIM		1	2957	4500X	
			LEAR	0839.0	0840.0	III		1	25	159	
			SVTO	0839.0	0840.0	III		1	36	85	
			IZMI	0839.3	0840.2	III	GG	2	25X	270	
			SVTO	0928.0	0939.0	III	N	1	36	59	
			IZMI	0928.7	0928.9	III	G	2	25X	135	
			IZMI	1002.8	1003.2	UNCLF		2	200	270X	
	0440	1815	BLEN	1002.8	1003.1	III	U	2	220X	330	
			IZMI	1054.4	1055.9	II	HARM	2	45	150	
			SVTO	1055.0	1056.0	III		1	36	59	
			IZMI	1059.7	1101.4	II		1	135	180	
			IZMI	1106.5	1119.6	UNCLF		2	45	95	
			SVTO	1117.0	1119.0	II		1	41	55	ESS 0800
			SGMR	1822.0	1823.0	III		1	30	50	
	2110	2400	CULG	2124.0	2124.0	III	B	1	30	140	
			CULG	2135.0	2139.0	III	G	1	30	140	
			CULG	2251.0	2254.0	III	G	1	25	70	
			PALE	2321.0	0114.0	CONT		1	25	175	
	1926	2400	HIRA	2339.0	2340.0	III	B	1	200	500	
			CULG	2342.0	2342.0	III	B	1	200	520	
10	0000	0700	CULG	0005.0	0005.0	III	B	1	28	90	
			CULG	0117.0	0700.0D	I	S	1	130	180	
			LEAR	0202.0	0935.0	CONT		1	53	180	
			LEAR	0422.0	0425.0	III		1	25	113	
			CULG	0423.0	0425.0	III	G	1	18	90	
	0550	1200	IZMI	0550.0E	1052.0U	I	N	2	90	270X	
			SVTO	0632.0	0929.0	CONT		1	35	80	
			IZMI	0738.0	0738.8	III	GG	2	120	260	
	0000	0958	HIRA	0738.0	0756.0	III	G	1	70	220	
			IZMI	0747.3	0747.8	III	GG	2	55	170	
			IZMI	0753.7	0754.6	III	GG	2	55	240	
	0422	1750	ONDR	0755.0	0757.0	DCIM	G,W	1	2527	4500X	
			IZMI	0948.3	0948.5	III	B	1	45	90	
			ONDR	1005.3	1008.1	DCIM	G	1	2000X	2352	
			ONDR	1005.5	1008.1	DCIM	GG	2	1527	2000X	
			SVTO	1009.0	1009.0	III		1	35	62	
			IZMI	1009.1	1009.6	III	G	2	25	120	
			IZMI	1040.4	1040.7	III	G	1	45	100	
			IZMI	1052.0U	1200.0D	I	S	2	50	270	
			IZMI	1125.0	1126.4	I	GG,DC,U	2	105	135	
			IZMI	1126.3	1127.2	III	G	1	45	95	
			SGMR	1136.0	1137.0	III		1	30	80	
			SVTO	1136.0	1137.0	III		2	35	84	
			IZMI	1136.4	1137.0	III	GG	2	25X	270	
			SVTO	1145.0	1553.0	CONT		1	35	85	
			IZMI	1159.2	1159.3	III	B	2	45	80	
			HOLL	1321.0	1324.0	III		1	25	180	
			SGMR	1321.0	1325.0	III		2	30	80	
			SVTO	1321.0	1325.0	III		1	36	84	
			ONDR	1324.0	1324.4	CONT	W	1	2771	4500X	

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10			HOLL	1408.0	1633.0	III	N	1	25	180	
	0440	1815	BLEN	1515.3	1515.4	III	RS	2	370	450	
			HOLL	1812.0	1814.0	III		1	25U	81U	
			SGMR	1813.0	1815.0	III		1	30	60	
			HOLL	1958.0	2003.0	III		2	25	180	
			PALE	1958.0	2002.0	III		2	25	180	
			SGMR	1958.0	2003.0	III		3	30	80	
	1927	2400	HIRA	1958.0	2003.0	III	G	3	25X	300	
			HIRA	2034.0	2036.0	III	G	3	25X	400	
			HOLL	2034.0	2037.0	V		2	25	180	
			PALE	2034.0	2037.0	V		2	25	180	
			SGMR	2034.0	2037.0	III		3	30	80	
	2110	2400	CULG	2110.0E	2124.0	CONT		1	600	900	
			CULG	2115.0	2117.0	III	G	1	80	310	
			CULG	2121.0	2133.0	II	FN	3	28	80	
			CULG	2122.0	2139.0	II	SH	3	28	180	ESS 850
			CULG	2123.0	2205.0U	IV		3	30	260	
			HIRA	2123.0	2250.0	IV		3	50	600	
			PALE	2123.0	2133.0	II		2	25	180	ESS 1200
			SGMR	2123.0	2132.0	II		3	30	80	ESS 1400
			SGMR	2124.0	2128.0	III		3	30	80	
			PALE	2125.0	0006.0	IV		1	25	180	
			HOLL	2126.0	2145.0	II		2	25	180	ESS 1015
			SGMR	2132.0	2300.0	IV		2	30	80	
			CULG	2153.0	2253.0	IV	FS	2	20	1800	
			CULG	2205.0	2359.0	III	N	1	28	180	
			CULG	2253.0	2253.0D	I	S	1	60	170	
			LEAR	2321.0	0205.0	IV		1	25	168	
11	0000	0700	CULG	0000.0E	0108.0	I	S	2	60	160	
			PALE	0005.0	0313.0	III	N	2	25	145	
			CULG	0006.0	0700.0D	III	S,C	1	20	180	
			CULG	0009.0	0021.0	III	GG	3	18	200	
			HOLL	0009.0	0019.0	III		1	25	155	
			LEAR	0009.0	0020.0	III		2	25	180	
	0000	0958	HIRA	0009.0	0020.0	III	G	1	25X	130	
			CULG	0108.0	0426.0	I	S	1	60	140	
			LEAR	0206.0	0207.0	III		1	25	153	
			LEAR	0226.0	0246.0	III	N	1	25	122	
			CULG	0301.0	0303.0	III	G	3	18	180	
			HIRA	0301.0	0304.0	III	G	1	25X	170	
			LEAR	0301.0	0303.0	III		1	25	180	
			LEAR	0403.0	0936.0	CONT		1	25	180	
			CULG	0414.0	0416.0	III	G	2	20	800	
			HIRA	0414.0	0415.0	III	B	1	25X	170	
			LEAR	0414.0	0415.0	III		1	25	180	
	0554	0653	IZMI	0554.0E	0653.0D	I	S	2	45X	95X	
	0653	1401	IZMI	0653.0E	1401.0D	I	N	2	50	250	
	0423	1749	ONDR	0655.2	0655.5	DCIM	G	2	800X	912	
			SVTO	0656.0	1757.0	CONT		1	35	85	
			IZMI	0707.0U	1401.0D	III	N	1	45	100	
			LEAR	0818.0	0823.0	III		3	25	180	
			SVTO	0818.0	0823.0	III		2	35	85	
			IZMI	0818.5	0820.6	III	GG	2	25X	270X	
			HIRA	0819.0	0822.0	III	G	2	30	700	
			IZMI	0821.1	0824.3	III	GG	2	25X	270X	
	0440	1815	BLEN	0821.1	0823.1	III	GG,RS	2	220X	550X	
			ONDR	0821.5	0821.5	DCIM	B	2	800X	1259	
			IZMI	1016.2	1021.9	III	GG	2	45	160	
			IZMI	1036.5	1044.5	III	GG	2	30	160	
			BLEN	1037.4	1530 X	I	N	2	220X	350	
			IZMI	1046.0U	1114.0	III	N	2	25X	145	
			SGMR	1053.0	1237.0	III	N	1	30	60	
			IZMI	1108.7	1108.9	III	G,FS,RS	2	45	60	
			IZMI	1109.7	1112.1	III	GG,FS	2	30	140	
			IZMI	1111.8	1112.9	UNCLF	FS	2	45	65	
			IZMI	1125.6	1127.0	III	GG	2	25X	225	
			ONDR	1136.5	1147.4	DCIM	G	1	2381	4500X	
			IZMI	1142.4	1144.8	III	GG	2	25	100	

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11			ONDR	1213.4	1247.4X	DCIM	GG	2	2000X	4500X	
			IZMI	1220.0U	1401.0D	I	S,C	2	45U	270X	
			ONDR	1228.3	1228.4	DCIM	GG,SP	1	823	1845	
			ONDR	1230.4	1234.3	DCIM	G,SP	1	800X	2000	
			BLEN	1232.0	1248.0	DCIM	C	2	220X	550X	
			ONDR	1233.4	1329.3	DCIM	GG,SP,FS	3	800X	2000X	
			SGMR	1237.0	2302.0	CONT		2	30	80	
			BLEN	1246.0	1512.0	DCIM	P,F	3	220X	550X	
			ONDR	1306.3	1400.2	DCIM	GG	2	2000X	4500X	
			IZMI	1320.0U	1353.0U	UNCLF	C	2	45U	270X	
			ONDR	1336.0	1357.4	DCIM	GG	3	800X	2000X	
			ONDR	1404.2	1452.1	DCIM	GG,SP	2	800X	2000X	
			ONDR	1405.4	1417.1	CONT	W	1	2000X	4412	
			ONDR	1432.0	1444.5	CONT		1	2000X	4500X	
	1928	2400	HIRA								
			PALE	1955.0	0500.0	CONT		1	25	180	
	2110	2400	CULG	2110.0E	2400.0D	III	S,C	2	25	260	
12	0000	0700	CULG	0000.0E	0230.0	III	S	2	30	180	
			LEAR	0029.0	0936.0	CONT		1	59	155	
			CULG	0230.0	0700.0D	III	S,C	1	30	180	
			LEAR	0340.0	0341.0	III		1	25	168	
			PALE	0340.0	0341.0	III		1	25	155	
			CULG	0341.0	0341.0	III	B	2	18	180	
	0000	0958	HIRA	0341.0	0342.0	III	B	2	25X	240	
			SVTO	0443.0	1046.0	CONT		2	35	85	
	0440	1815	BLEN	0452.3	0458.0	III	GG,S	3	220X	550X	
	0600	1230	IZMI	0600.0	1035.0	I	S	2	55	250	
			IZMI	0732.0U	1035.0	III	N	1	45	100	
			IZMI	0756.6	0757.4	III	G	1	25	90	
			IZMI	0905.0	0906.8	III	GG	2	25X	160	
			BLEN	0906.0	0906.9	III	GG	2	220X	350	
			IZMI	0916.0	0920.6	III	GG	2	25X	270X	
			IZMI	1006.3	1008.0	III	G	2	45	165	
	0424	1749	ONDR	1030.5	1038.5	DCIM	GG,FS	2	2000X	4500X	
			ONDR	1031.2	1054.2	DCIM	GG,FS,SP	2	800X	2000X	
			BLEN	1034.3	1044.0	III	GG	2	220X	550X	
			IZMI	1035.0	1036.5	III	GG	2	200	270X	
			IZMI	1035.0U	1230.0D	I	S,C	2	50	270X	
			BLEN	1036.0	1125.0	I	C	2	220X	550X	
			IZMI	1037.0	1037.4	UNCLF		2	200	270X	
			IZMI	1042.0U	1230.0D	CONT		2	25U	270X	
			SVTO	1046.0	1757.0	IV		2	35	85	
			BLEN	1052.0	1103.8	DCIM	C,S	2	220X	550X	
			ONDR	1057.1	1101.2	DCIM		2	800X	1138	
			SGMR	1103.0	1808.0	CONT		1	30	80	
			BLEN	1111.4	1115.3	DCIM	P	1	330	480	
			IZMI	1151.2	1212.0U	UNCLF		2	25U	270X	
			ONDR	1154.2	1201.1	DCIM	G	2	800X	1634	
			BLEN	1154.5	1211.5	DCIM	P,S	3	250	450	
			HOLL	1210.0	1736.0	CONT		1	25	180	
			ONDR	1210.4	1210.5	DCIM	SP	2	800X	1058	
			HOLL	1236.0	0030.0	CONT		2	25	180	
			BLEN	1241.8	1242.3	III	GG,RS	2	370	550X	
			ONDR	1329.0	1339.0	DCIM	G	1	800X	1428	
			BLEN	1337.8	1340.3	DCIM	S	3	250	550X	
			HOLL	1434.0	1435.0	III		2	25	50	
			BLEN	1609.8	1611.2	DCIM	C	1	1000X	3000X	
			BLEN	1641.5	1653.0	DCIM	C	1	1000X	3000X	
			HOLL	1818.0	1827.0	III		1	25	157	
			SGMR	1818.0	2119.0	III	N	1	30	80	
			HOLL	1848.0	1849.0	III		1	25	86	
	1928	2400	HIRA								
			HOLL	1930.0	0049.0	CONT		1	25	153	
			SGMR	2014.0	2024.0	II		2	30	80	ESS 0950
	2110	2400	CULG	2110.0E	2252.0	I	S,C	2	60	180	
			CULG	2120.0	2400.0D	III	N	1	30	180	
			CULG	2252.0	2400.0D	I	S,C	1	60	180	
			LEAR	2321.0	0937.0	CONT		1	45	180	

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OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
13			CULG	0000.0E	0700.0D	III	N	1	23	90	
	0000	0700	CULG	0000.0E	0700.0D	I	S,C	1	60	160	
			HOLL	0008.0	0009.0	III		1	25	180	
			CULG	0009.0	0010.0	III	G	2	18	180	
	0000	0958	HIRA	0009.0	0010.0	III	B	3	25X	220	
			CULG	0053.0	0054.0	III	G	2	20	90	
			PALE	0053.0	0054.0	III		1	25	180	
			CULG	0139.0	0140.0	III	G	2	20	90	
			LEAR	0139.0	0140.0	III		2	25	110	
			PALE	0139.0	0140.0	III		2	25	85	
			CULG	0235.0	0236.0	III	G	3	18	180	
			HIRA	0235.0	0236.0	III	B	3	25X	360	
			LEAR	0235.0	0236.0	III		3	25	180	
			PALE	0235.0	0236.0	III		3	25	180	
	0440	1815	BLEN	0443.6	0444.9	III	G,RS	2	460	550X	
			SVTO	0459.0	1756.0	CONT		1	35	85	
			BLEN	0501.8	0702.0	III	GG,U	1	220X	550X	
	0425	1748	ONDR	0505.5	0508.2	DCIM	G,SP	2	800X	1920	
			HIRA	0506.0	0507.0	III	G	1	200	800	
			HIRA	0521.0	0524.0	III	G	1	200	1600	
			ONDR	0521.1	0523.0	DCIM	GG,SP	3	800X	1541	
			ONDR	0524.0	0526.5	DCIM	GG	2	800X	2000X	
			ONDR	0530.5	0531.3	DCIM	GG	1	969	1766	
			HIRA	0539.0	0540.0	III	B	2	120	720	
			LEAR	0540.0	0541.0	III		2	69	180	
			ONDR	0540.1	0540.2	DCIM	GG,SP	2	800X	1930	
			ONDR	0547.4	0548.4	DCIM	GG,SP	3	800X	1705	
			IZMI	0604.0E	0952.0D	III	N	1	45	100	
	0604	0952	IZMI	0604.0E	0952.0D	I	S,C	2	50	270X	
			ONDR	0610.5	0611.2	DCIM	GG	2	800X	1695	
			ONDR	0612.2	0622.4	CONT		1	2000X	4461	
			LEAR	0617.0	0620.0	III		2	25	180	
			SVTO	0617.0	0620.0	III		2	35	85	
			ONDR	0617.5	0618.0	DCIM	G,SP	2	800X	1850	
			IZMI	0617.7	0618.4	III	GG	2	30	270X	
			CULG	0618.0	0700.0D	III	N	2	25	180	
			HIRA	0618.0	0619.0	III	B	1	25X	400	
			IZMI	0619.4	0619.9	III	GG	2	45	270X	
			LEAR	0627.0	0628.0	III		2	25	180	
			IZMI	0627.6	0629.0	III	G	2	45	270X	
			LEAR	0635.0	0636.0	III		2	25	180	
			SVTO	0635.0	0636.0	III		2	35	85	
			IZMI	0635.2	0636.3	III	G	2	25X	270X	
			LEAR	0654.0	0722.0	III	N	3	25	180	
			SVTO	0654.0	0703.0	III		3	35	85	
			ONDR	0654.2	0654.4	DCIM	GG,SP	2	800X	1662	
			ONDR	0654.3	0702.0	DCIM	GG,FS	2	2000X	4500X	
			IZMI	0654.6	0654.9	III	G,C	3	25X	270X	
			CULG	0655.0	0655.0	III	B	3	25	800	
			HIRA	0655.0	0656.0	III	G	3	35	700	
			IZMI	0655.9	0656.0	III	B	2	45	80	
			ONDR	0657.1	0657.2	DCIM	G,SP	2	823	1109	
			IZMI	0658.5	0700.3	III	G,C	2	45	175	
			ONDR	0659.2	0701.1	DCIM	GG,SP	3	800X	2000X	
			IZMI	0700.5	0701.7	III	GG,FS,C	2	30	270X	
			ONDR	0718.5	0719.0	DCIM	G,SP	1	800X	959	
			IZMI	0721.9	0722.9	III	G	2	45	170	
			IZMI	0728.7	0730.0	III	G	2	45	110	
			ONDR	0738.2	0738.4	DCIM	G	1	800X	1288	
			IZMI	0751.3	0752.4	III	G	2	45	110	
			IZMI	0813.2	0817.4	III	GG	2	50	270X	
			BLEN	0830.0	1505.0	I	DC	3	220X	360	
			ONDR	0835.0	0835.5	DCIM	G	1	2215	4451	
			LEAR	0850.0	0852.0	III		2	43	180	
			IZMI	0850.1	0850.7	III	GG	2	45	270	
			SVTO	0851.0	0852.0	III		2	35	85	
			IZMI	0851.4	0852.9D	III	GG,C	2	45	270X	
			IZMI	0944.3	0944.6	III	G	2	25	105	
			IZMI	0946.8	0946.9	III	B	2	30	90	

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13			SGMR	1129.0	1130.0	III		2	30	80	
			SVTO	1129.0	1133.0	III		2	35	85	
			BLEN	1303.5	1305.0	III	GG	2	250	550X	
			SGMR	1304.0	1446.0	III	N	2	30	80	
			BLEN	1319.5	1323.0	III	GG	1	220X	400	
			ONDR	1418.2	1418.3	DCIM	G,SP	2	800X	1583	
			BLEN	1418.3	1445.0	III	GG,RS,U	3	220X	550X	
			ONDR	1430.5	1432.5	DCIM	G	1	2693	4500X	
			HOLL	1446.0	1446.0	III		2	25	180	
			SVTO	1446.0	1447.0	III		2	35	85	
			ONDR	1446.1	1446.2	DCIM	G,SP	2	800X	1622	
			ONDR	1446.1	1449.2	DCIM	G	1	2000X	4500X	
			ONDR	1448.0	1450.0	DCIM	GG,SP	2	800X	1803	
			SGMR	1621.0	1628.0	III		2	30	60	
			HOLL	1627.0	1628.0	III		1	25	138	
			SVTO	1627.0	1628.0	III		1	35	85	
			HOLL	1658.0	1658.0	III		1	25	66	
			SGMR	1658.0	1658.0	III		2	30	65	
			HOLL	1735.0	1738.0	III		1	25	64	
			SGMR	1736.0	1738.0	III		1	30	60	
			ONDR	1742.1	1742.2	DCIM	G,SP	2	833	1156	
			PALE	1809.0	0009.0	III	N	1	25	140	
			HOLL	1812.0	1813.0	III		1	25	85	
			SGMR	1812.0	1813.0	III		2	30	70	
	1928	2400	HIRA								
			HOLL	2044.0	2048.0	III		1	25	122	
			PALE	2044.0	2048.0	III		1	25	90	
			SGMR	2045.0	2049.0	III		2	30	80	
	2110	2400	CULG	2110.0E	2400.0D	I	S,C	1	110	170	
			CULG	2154.0	2333.0	III	N	1	23	130	
			LEAR	2321.0	0937.0	CONT		1	62	180	
14	0000	0700	CULG	0000.0E	0551.0	I	S,C	1	80	170	
			LEAR	0004.0	0005.0	III		1	25	115	
			CULG	0005.0	0700.0D	III	N	1	20	180	
			CULG	0118.0	0118.0	III	B	3	18	180	
			LEAR	0118.0	0118.0	III		2	25	180	
			PALE	0118.0	0118.0	III		1	25	180	
			LEAR	0146.0	0147.0	III		1	25	127	
			PALE	0146.0	0230.0	III	N	1	25	145	
			CULG	0147.0	0147.0	III	B	2	20	100	
			LEAR	0207.0	0230.0	III	N	1	25	180	
			CULG	0211.0	0211.0	III	B	2	20	180	
			LEAR	0334.0	0338.0	III		1	25	180	
			PALE	0334.0	0338.0	III		1	25	180	
			CULG	0335.0	0338.0	III	G	2	18	500	
	0000	0958	HIRA	0336.0	0339.0	III	G	1	25X	400	
			SVTO	0429.0	1026.0	CONT		1	35	85	
			LEAR	0442.0	0444.0	III		3	25	180	
			PALE	0442.0	0444.0	V		2	25	180	
			SVTO	0442.0	0444.0	III		2	35	84	
			CULG	0443.0	0444.0	III	G	3	18	180	
			HIRA	0443.0	0444.0	III	B	3	25X	170	
			LEAR	0508.0	0508.0	III		1	25	127	
			SVTO	0508.0	0536.0	III	N	1	35	83	
			LEAR	0523.0	0757.0	III	N	1	25	180	
			IZMI	0550.0E	1301.0D	III	N	1	45	100	
	0550	1301	IZMI	0550.0E	1301.0D	I	S,C	2	50	260	
			CULG	0551.0	0700.0D	I	S,C	2	50	170	
			IZMI	0633.0	0633.2	III	B	2	110	270X	
	0425	1748	ONDR	0737.1	0737.3	DCIM	G	2	955	1269	
	0440	1815	BLEN	0750.4	0752.4	III	GG	2	380	550X	
			ONDR	0754.0	0754.2	DCIM	G,SP	2	800X	1311	
			LEAR	0815.0	0816.0	III		3	25	180	
			SVTO	0815.0	0816.0	III		3	35	85	
			ONDR	0815.3	0816.0	DCIM		1	800X	2000X	
			ONDR	0815.3	0816.0	DCIM	G	1	2000X	4500X	
			BLEN	0815.4	0816.2	III	GG,V,RS	3	220X	550X	
			IZMI	0815.4	0816.6	III	G,C	2	25X	270X	

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14			HIRA	0816.0	0817.0	III	B	3	25X	200	
			IZMI	0904.7	0909.1	III	GG	2	25X	78	
			BLEN	0945.8	0954.7	DCIM	P,Z	2	250	450	
			BLEN	0949.3	0951.1	III	GG	2	400	550X	
			ONDR	1003.2	1151.2	DCIM	GG,FS	3	800X	2000X	
			ONDR	1007.0	1135.4	DCIM	GG	3	2000X	4500X	
			BLEN	1008.1	1431.0	IV	P,M,F	1	220X	550X	
			IZMI	1008.5	1011.2	III	GG	2	25X	270X	
			IZMI	1015.2	1039.0U	III	S,C	2	25	270X	
			BLEN	1017.2	1027.0	II	H	2	220X	440	
			IZMI	1018.9	1026.3U	II	HARM	2	35	175	
			SVTO	1020.0	1026.0	II		3	35U	85U	ESS 1600
			SGMR	1021.0	1027.0	II		2	30	70	ESS 1000
			IZMI	1021.6	1023.8	UNCLF	FS	2	25X	45	
			SGMR	1026.0	1330.0	IV		3	30	80	
			SVTO	1026.0	1756.0	IV		3	35	85	
			IZMI	1026.4	1041.0U	CONT		3	25X	270X	
			IZMI	1028.0U	1034.0U	II	UE	2	45	150	
			IZMI	1041.3	1059.0U	CONT	FS	2	150	270X	
			IZMI	1111.3	1115.4	III	GG	2	25X	245	
			IZMI	1157.2	1157.6	III	G	2	55	145	
			ONDR	1215.4	1219.2	DCIM	W	1	800X	1039	
			BLEN	1224.0	1225.5	III	GG,V	1	220X	350	
			SVTO	1225.0	1225.0	III		1	35	83	
			IZMI	1225.1	1225.5	III	G,FS	2	25	270X	
			ONDR	1240.5	1247.2	DCIM		2	800X	898	
			IZMI	1248.8	1254.2	III	GG	2	25X	270X	
			ONDR	1249.2	1257.4	DCIM	GG,FS	3	800X	2000X	
			ONDR	1250.0	1254.1	DCIM	GG	1	2000	4500X	
			HOLL	1257.0	1315.0	II		1	25	147	ESS 0597
			IZMI	1257.4	1300.9	III	GG	2	25X	245	
			ONDR	1304.4	1317.4	DCIM	G	2	800X	908	
			ONDR	1345.2	1355.1	DCIM	GG	2	800X	2000X	
			SGMR	1347.0	1355.0	V		3	30	80	
			SVTO	1347.0	1357.0	V		3	35	85	
			ONDR	1347.1	1355.2	DCIM	G	2	2000X	4500X	
			HOLL	1637.0	1646.0	III		2	25	180	
			SGMR	1637.0	1646.0	V		2	30	80	
			SVTO	1637.0	1646.0	V		2	35	85	
			BLEN	1638.0	1645.0	DCIM	P	2	1000	4000	
			SGMR	1800.0	1802.0	III		1	30	60	
			HOLL	1913.0	1917.0	III		1	25	178	
			SGMR	1913.0	1939.0	III	N	2	30	80	
	1929	2400	HIRA								
			HOLL	1952.0	1954.0	III		1	25	180	
			SGMR	2056.0	2057.0	III		1	30	65	
	2110	2400	CULG	2240.0	2243.0	III	N	1	23	180	
			LEAR	2321.0	0937.0	CONT		1	62	180	
15			LEAR	0035.0	0035.0	III		1	25	134	
	0000	0700	CULG	0035.0	0629.0	III	N	1	23	180	
			LEAR	0039.0	0039.0	III		1	25	99	
			LEAR	0224.0	0225.0	III		1	25	180	
	0000	0957	HIRA	0224.0	0225.0	III	B	1	50	320	
			LEAR	0251.0	0253.0	III		1	68	180	
			LEAR	0259.0	0937.0	III	N	1	25	180	
			HIRA	0438.0	0440.0	III	G	3	25X	320	
			CULG	0439.0	0441.0	III	G	2	20	280	
			LEAR	0439.0	0440.0	III		2	25	180	
			SVTO	0439.0	0440.0	III		1	35	85	
	0440	1800	BLEN	0439.0	0439.2	III		1	220X	400	
			HIRA	0523.0	0527.0	III	G	2	30	300	
			CULG	0524.0	0528.0	III	G	2	23	180	
			SVTO	0524.0	0528.0	III		1	35	85	
			BLEN	0525.8	0526.2	III	GG	2	220X	550X	
			SVTO	0548.0	1258.0	CONT		1	35	85	
			HIRA	0553.0	0555.0	III	G	3	25X	270	
			SVTO	0553.0	1259.0	III	N	2	35	85	
			CULG	0554.0	0602.0	III	GG	3	25	180	

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15			LEAR	0554.0	0603.0	III		2	25	180	
			IZMI	0554.1	0606.3	III	S	2	25X	270X	
			BLEN	0555.7	0601.7	DCIM	P	3	250	550X	
	0426	1747	ONDR	0559.2	0601.3	DCIM		1	800X	2000X	
	0601	1200	IZMI	0601.0E	1200.0D	III	N	1	45	100	
			IZMI	0627.7	0629.0D	III	GG	1	50	160	
			HIRA	0648.0	0649.0	III	B	2	25X	210	
			IZMI	0648.3	0653.2	III	GG	2	25X	270X	
			CULG	0649.0	0656.0	III	GG	2	30	180	
			IZMI	0659.8	0701.0	III	GG	1	45	240	
			IZMI	0759.1	0759.5	III	G	1	50	150	
			IZMI	0811.5	0812.4	III	G	2	25X	270X	
			HIRA	0812.0	0813.0	III	B	2	25X	230	
			ONDR	0817.3	0832.1	DCIM	G	1	2459	4500X	
			IZMI	0832.7	0832.9	III	G	2	25X	160	
			IZMI	0838.6	0839.1	III	G	2	30	210	
			IZMI	0843.1	0844.7	III	GG,FS	2	25	160	
			IZMI	0903.2	0904.5	III	GG	1	200	270X	
			IZMI	0929.4	0931.7	III	GG	1	30	145	
			IZMI	0934.8	0936.6	III	GG	2	25X	180	
			IZMI	0958.7	0958.9	III	B	1	25	160	
			IZMI	1005.0	1005.2	III	G	2	25X	245	
			IZMI	1007.4	1007.7	III	G	1	25X	45	
			BLEN	1031.2	1035.5	III	GG,RS	2	220X	330	
			IZMI	1032.5	1048.1	III	N	2	25X	270X	
			IZMI	1116.8	1122.1	III	GG	2	25	270X	
			BLEN	1118.7	1121.2	III	G,S	1	220X	320	
			SGMR	1120.0	1259.0	III	N	2	30	80	
			IZMI	1125.1	1128.9	III	GG	2	25X	270	
			IZMI	1129.6	1135.9	III	GG	2	25X	270X	
			BLEN	1131.5	1134.2	DCIM	P	3	240	520	
			IZMI	1137.7	1138.7	III	G	1	25	145	
			IZMI	1144.7	1144.8	III	B	1	45	150	
			BLEN	1151.8	1153.0	III	GG	2	235	550X	
			IZMI	1152.0	1152.7	III	G	1	105	270X	
			BLEN	1156.6	1156.8	III		1	220X	470	
			IZMI	1156.6	1156.6	III	B	2	190	270X	
			IZMI	1157.4	1159.6	III	G	2	25X	270	
			BLEN	1241.2	1241.5	III	GG	3	220X	550X	
			BLEN	1258.8	1259.0	III	GG	1	220X	260	
			SVTO	1342.0	1448.0	III	N	3	35	85	
			SGMR	1343.0	1344.0	III		1	30	60	
			SGMR	1418.0	1449.0	III	N	3	30	80	
			HOLL	1428.0	1431.0	III		2	25	180	
			BLEN	1431.6	1437.6	III	GG	2	220X	350	
			HOLL	1433.0	1448.0	II		2	25	160	ESS 0788
			SGMR	1534.0	2034.0	III	N	2	30	80	
			SVTO	1534.0	1630.0	III	N	2	35	85	
			HOLL	1547.0	1547.0	III		1	25	159	
			HOLL	1603.0	2050.0	III	N	1	25	180	
			PALE	1638.0	1644.0	III		1	25	175	
			PALE	1811.0	1812.0	III		1	25	90	
			PALE	1913.0	1917.0	III		1	25	180	
			PALE	1925.0	1952.0	III	N	1	25	80	
			PALE	2033.0	2034.0	III		1	25	71	
			PALE	2056.0	2100.0	III		1	25	65	
	2110	2400	CULG	2110.0E	2342.0	III	N	1	20	180	
			HOLL	2129.0	2150.0	III	N	2	25	180	
			PALE	2129.0	2150.0	III	N	2	25U	85U	
			CULG	2137.0	2150.0	III	GG	3	30	180	
	1930	2400	HIRA	2137.0	2150.0	III	G	3	25X	180	
			CULG	2143.0	2150.0	II	SH,H	3	60	150	ESS 600
			CULG	2146.0	2150.0	II	FN,H	2	30	55	
			CULG	2213.0	2214.0	III	G	3	28	170	
			HOLL	2213.0	2218.0	III		1	25	86	
			PALE	2213.0	2218.0	III		2	25U	75U	
			HIRA	2214.0	2218.0	III	G	2	25X	240	
			CULG	2216.0	2219.0	III	G	2	28	200	
			CULG	2300.0	2301.0	III	B	3	20	1200	

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15			HIRA	2300.0	2301.0	III	B	3	25X	240	
			HOLL	2300.0	2305.0	III		2	25	180	
			PALE	2300.0	2305.0	III		2	25U	75U	
			SGMR	2300.0	2301.0	III		2	30	80	
			CULG	2319.0	2319.0	III	B	2	20	200	
			HIRA	2319.0	2320.0	III	B	2	25X	240	
			HOLL	2319.0	2319.0	III		1	25	180	
			PALE	2319.0	2319.0	III		1	25	150	
			LEAR	2320.0	2321.0	III		1	25	180	
16	0000	0700	CULG	0005.0	0006.0	III	G	1	45	160	
			CULG	0009.0	0010.0	III	G	3	18X	100	
			HOLL	0009.0	0009.0	III		1	25	85	
			HOLL	0009.0	0009.0	V		2	25	86	
			LEAR	0009.0	0011.0	V		3	25	115	
			PALE	0009.0	0009.0	III		2	25	55	
			CULG	0022.0	0024.0	III	G	1	20	90	
			CULG	0035.0	0035.0	III	B	1	20	90	
			PALE	0035.0	0035.0	III		1	25	85	
			HOLL	0122.0	0125.0	V		2	25	180	
			LEAR	0122.0	0127.0	V		3	25	180	
			PALE	0122.0	0126.0	V		3	25	180	
	0000	0956	HIRA	0122.0	0125.0	III	G	3	25X	2000	
			CULG	0123.0	0127.0	III	G	3	18	480	
			CULG	0203.0	0203.0	III	B	1	35	90	
			CULG	0225.0	0227.0	III	G	1	30	75	
			LEAR	0250.0	0258.0	III		1	25	180	
			CULG	0251.0	0407.0	III	N	1	23	180	
			LEAR	0307.0	0349.0	III	N	1	25	180	
			PALE	0307.0	0342.0	III	N	1	25	65	
			CULG	0511.0	0636.0	III	N	1	25	160	
			SVTO	0519.0	0922.0	III	N	2	35	85	
			LEAR	0537.0	0632.0	III	N	2	25	180	
	0556	1200	IZMI	0556.0E	1200.0D	I	S	2	80	270X	
			IZMI	0557.4	0558.1	III	G	2	45	170	
	0600	1815	BLEN	0600.0	1515.0	I		2	230	340	
			IZMI	0602.8	0613.2	III	GG	2	25X	270X	
			CULG	0603.0	0613.0	III	GG	2	20	540	
			ONDR	0604.5	0613.2	DCIM	GG,FS	2	800X	2000X	
			HIRA	0607.0	0613.0	III	G	3	25X	1600	
			BLEN	0607.5	0618.9	DCIM	P	3	220X	550X	
	0427	1746	ONDR	0611.2	0613.4	CONT		1	2156	4500X	
			IZMI	0618.0U	0753.0U	III	N	1	45	95	
			IZMI	0620.1	0624.7	III	GG	1	45	170	
			CULG	0629.0	0700.0D	I	S	1	75	180	
			IZMI	0630.6	0633.0	III	GG	2	25X	270	
			CULG	0631.0	0633.0	III	G	2	20	380	
			BLEN	0631.3	0631.7	III	GG	2	220X	370	
			IZMI	0707.5	0707.7	III	B	2	35	135	
			IZMI	0722.0	0722.6	III	G	2	35	155	
			LEAR	0722.0	0744.0	III	N	2	25	180	
			ONDR	0722.1	0723.3	DCIM	G,W	1	2908	4500X	
			IZMI	0723.8	0725.1	III	GG	2	25X	170	
			IZMI	0733.5	0734.0	III	G	1	45	265	
			IZMI	0736.4	0744.5	III	N	2	25X	170	
			ONDR	0816.5	0816.5	DCIM	G	2	800X	917	
			IZMI	0831.1	0834.0	III	G	2	25	175	
			SVTO	0840.0	0844.0	III		3	35	85	
			IZMI	0840.8	0844.1	III	GG,C	2	25X	270X	
			HIRA	0841.0	0842.0	III	B	3	25X	400	
			LEAR	0841.0	0843.0	III		3	25	180	
			BLEN	0841.5	0842.3	III	GG,RS	2	220X	400	
			IZMI	0846.0	0846.1	III	B	1	25	90	
			IZMI	0857.0	0859.8	III	G	2	25X	100	
			IZMI	0918.7	0919.8	III	G	1	25	90	
			IZMI	0921.9	0922.2	III	B	1	25	90	
			ONDR	0939.3	0940.5	DCIM	G,W	1	800X	1812	
			ONDR	0940.0	0940.4	DCIM	W	1	2869	4500X	
			BLEN	0952.1	0953.7	III	GG,S	3	220X	450	

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16			IZMI	0952.1	0952.3	III	G	2	150	270X	
			SVTO	1035.0	1043.0	III		1	35	85	
			BLEN	1035.5	1036.5	III	GG,U,RS	3	220X	550X	
			IZMI	1035.5	1038.0	III	GG,C,FS	2	25X	270X	
			IZMI	1043.2	1043.9	III	GG	1	25X	270X	
			IZMI	1107.3	1108.1	III	G	1	50	160	
			IZMI	1111.5	1111.6	III	B	1	50	90	
			IZMI	1117.8	1118.2	III	G	1	30	85	
			IZMI	1123.3	1123.8	III	G	2	80	175	
			SGMR	1131.0	1938.0	III	N	2	30	80	
			SVTO	1131.0	1706.0	III	N	2	35	85	
			IZMI	1131.5	1131.8	III	B	1	25	85	
			IZMI	1134.7	1135.1	III	B	1	30	65	
			BLEN	1140.3	1140.9	III	G,RS	2	230	550X	
			IZMI	1140.5	1141.1	III	G	2	30	270X	
			IZMI	1152.1	1153.5	III	GG	2	25X	270X	
			BLEN	1153.3	1153.4	III	U	2	230	480	
			ONDR	1154.2	1155.5	DCIM	G,W	1	800X	2000X	
			BLEN	1154.4	1155.2	III	GG,U,RS	3	230	550X	
			IZMI	1154.4	1155.4	III	GG,FS	2	25X	270X	
			IZMI	1154.9	1155.7	V		2	45	105	
			IZMI	1159.3	1159.6	III	G	1	35	145	
			BLEN	1210.0	1253.0	IV	F	3	220X	450	
			BLEN	1224.3	1224.5	III	G,U	3	230	550X	
			HOLL	1245.0	1245.0	III		1	25	180	
			SVTO	1245.0	1245.0	III		1	35	85	
			BLEN	1510.2	1510.9	III	U,GG	3	220X	530	
			SGMR	1606.0	1613.0	III		3	30	80	
			SVTO	1607.0	1613.0	III		3	35	85	
			ONDR	1622.4	1623.0	DCIM	SP	1	800X	922	
			PALE	1705.0	1705.0	III		1	26	95	
			HOLL	1937.0	1938.0	III		1	25	180	
			PALE	1937.0	1938.0	III		1	25	180	
			SGMR	1937.0	1938.0	III		2	30	80	
			HOLL	2047.0	2048.0	III		1	25	180	
			PALE	2047.0	2048.0	III		2	25	180	
			SGMR	2047.0	2102.0	III	N	2	30	80	
	1930	2200	HIRA	2048.0	2049.0	III	B	2	25X	360	
			PALE	2102.0	2103.0	III		1	25	180	
	2110	2400	CULG	2110.0E	2325.0	I	S	1	120	260	
			CULG	2152.0	2231.0	III	N	1	30	180	
			PALE	2153.0	2230.0	III	N	1	25	180	
			CULG	2310.0	2339.0	III	N	1	28	180	
			HOLL	2311.0	2317.0	III		1	25	146	
			LEAR	2317.0	2324.0	III		1	57	180	
			PALE	2317.0	2321.0	III		1	62	180	
17	0000	0700	CULG	0000.0	0142.0	III	N	1	28	180	
			HOLL	0011.0	0015.0	III		1	25	132	
			LEAR	0011.0	0021.0	III		1	51	180	
			PALE	0011.0	0021.0	III		1	37	150	
			CULG	0031.0	0033.0	III	G	3	18	300	
			HOLL	0031.0	0035.0	III		1	25	180	
			LEAR	0031.0	0032.0	III		2	25	180	
			CULG	0051.0	0052.0	III	G	2	20	180	
			HOLL	0051.0	0051.0	III		1	25	180	
			LEAR	0051.0	0051.0	III		1	25	180	
			PALE	0051.0	0052.0	III		1	25	180	
			CULG	0157.0	0157.0	III	B	3	25	180	
			LEAR	0157.0	0157.0	III		2	25	180	
			PALE	0157.0	0157.0	III		2	25	158	
			CULG	0234.0	0243.0	III	G	1	28	160	
			LEAR	0234.0	0242.0	III		2	25	180	
			CULG	0241.0	0242.0	III	G	2	18	360	
			PALE	0241.0	0242.0	III		1	25	145	
			CULG	0324.0	0348.0	III	N	1	30	160	
			LEAR	0324.0	0325.0	III		2	25	180	
			CULG	0325.0	0325.0	III	B	3	20	160	
			CULG	0405.0	0419.0	III	GG	2	23	180	

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17			LEAR	0405.0	0419.0	III	N	2	25	180	
			SVTO	0412.0	0451.0	III	N	1	35	85	
			CULG	0428.0	0503.0	III	N	1	30	180	
			LEAR	0428.0	0537.0	III	N	1	25	180	
	0500	1815	BLEN	0512.3	0512.5	III	G,RS	1	460	550X	
			CULG	0527.0	0538.0	III	G	2	25	160	
			SVTO	0527.0	0634.0	III	N	1	35	85	
	0550	1201	IZMI	0550.0E	1201.0D	I	N	1	160	270X	
			IZMI	0554.0U	1201.0D	III	N	1	45	100	
			CULG	0601.0	0602.0	III	G	1	30	180	
			IZMI	0601.0	0601.4	III	G,FS	2	30	175	
			IZMI	0621.6	0623.7	III	GG	2	25	270X	
			LEAR	0622.0	0723.0	III	N	1	25	180	
			CULG	0623.0	0624.0	III	G	1	30	180	
			CULG	0627.0	0700.0D	I	S	1	100	150	
			CULG	0633.0	0634.0	III	G	2	50	200	
			IZMI	0633.2	0634.3	III	GG	2	50	270X	
			IZMI	0714.9	0718.3	III	GG	2	30	135	
			SVTO	0718.0	0736.0	III	N	1	35	60	
			IZMI	0734.3	0736.2	III	G	2	25	160	
	0800	0956	HIRA								
			SVTO	0813.0	1453.0	CONT		1	35	85	
			IZMI	0818.2	0818.8	I	GG	2	90	120	
	0428	1745	ONDR	0825.1	0827.3	DCIM	G,W	1	2000X	4500X	
			ONDR	0825.3	0827.2	DCIM	G,SP	3	800X	1208	
			IZMI	0831.0U	1003.0U	I	S	2	50	160	
			LEAR	0834.0	0834.0	III		1	48	124	
			SVTO	0834.0	0837.0	V		1	35	82	
			ONDR	0834.1	0842.5	DCIM	GG,SP	2	800X	2000X	
			IZMI	0834.7	0835.6	III	G	2	25	100	
			ONDR	0837.0	0838.2	DCIM		1	2000X	4500X	
			IZMI	0852.0U	1006.0	III	S	2	45	100	
			ONDR	1103.4	1103.5	DCIM	G,SP	2	800X	1203	
			IZMI	1111.9	1112.5	III	G	3	25	270X	
			SVTO	1112.0	1319.0	III	N	1	35	83	
			ONDR	1115.3	1128.0	DCIM	GG	1	800X	2000	
			IZMI	1127.0	1129.5	III	G	1	30	160	
			IZMI	1200.5	1200.9	III	G	2	85	240	
			SGMR	1239.0	1239.0	III		1	30	80	
			ONDR	1311.2	1320.4	DCIM	G	1	2000X	4500X	
			ONDR	1336.5	1344.0	DCIM	G	2	800X	1986	
			BLEN	1336.8	1343.6	III	C,G,U	3	220X	550X	
			HOLL	1342.0	1343.0	III		2	25	180	
			SGMR	1342.0	1344.0	III		2	30	80	
			SVTO	1342.0	1345.0	V		2	35	85	
			ONDR	1342.4	1342.5	DCIM	W	1	2000X	4285	
			BLEN	1516.9	1518.2	III	GG	2	220X	550X	
			BLEN	1517.7	1517.9	III		2	250	520	
			SVTO	1547.0	1548.0	III		1	35	47	
			SGMR	1548.0	1548.0	III		1	30	55	
			SGMR	1638.0	1638.0	III		1	30	45	
			HOLL	1743.0	1743.0	III		1	25	77	
			SGMR	1743.0	2147.0	III	N	3	30	80	
			HOLL	2014.0	2017.0	V		2	25	178	
			HOLL	2021.0	2022.0	II		2	66	178	ESS 0397
			SGMR	2021.0	2022.0	II		3	60	80	ESS 0600
			HOLL	2024.0	2025.0	V		2	25	180	
	1931	2400	HIRA	2025.0	2045.0	II		2	50	230	
			HOLL	2026.0	2030.0	II		1	28	179	ESS 4187
			HOLL	2027.0	2032.0	II		2	75	167	ESS 0787
	2110	2400	CULG	2141.0	2211.0	I	S	1	130	180	
			CULG	2250.0	2321.0	I	S	1	110	180	
			CULG	2258.0	2301.0	III	G	1	60	200	
			CULG	2306.0	2307.0	III	G	1	25	180	
18			LEAR	0037.0	0045.0	III		1	61	180	
	0000	0705	CULG	0037.0	0038.0	III	G	1	60	300	
			CULG	0044.0	0046.0	III	G	1	20	140	
			CULG	0131.0	0137.0	III	G	1	35	130	

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18			CULG	0140.0	0141.0	III	G	2	23	90	
			LEAR	0140.0	0141.0	III		1	25	99	
			PALE	0140.0	0141.0	III		1	25	94	
			CULG	0158.0	0336.0	I	S	1	100	180	
			CULG	0204.0	0217.0	III	GG	1	20	300	
			PALE	0211.0	0220.0	III		1	25	180	
			LEAR	0212.0	0220.0	III		1	25	180	
			CULG	0218.0	0235.0	III	N	1	30	150	
			CULG	0309.0	0311.0	III	G	1	28	90	
			CULG	0326.0	0326.0	III	B	1	30	60	
			CULG	0412.0	0413.0	III	B	3	18X	460	
			LEAR	0412.0	0412.0	III		3	25	180	
			PALE	0412.0	0412.0	III		2	25	180	
			SVTO	0412.0	0413.0	III		3	35	85	
	0000	0955	HIRA	0412.0	0413.0	III	B	3	25X	500	
			CULG	0506.0	0509.0	II	FN	2	40	70	
			CULG	0506.0	0513.0	II	SH	2	70	140	FLA
			HIRA	0507.0	0509.0	II	FN	2	50	70	
			HIRA	0507.0	0509.0	II	SH	3	80	130	
			LEAR	0507.0	0512.0	II		1	76	136	ESS 0941
			SVTO	0507.0	0509.0	II		1	44	71	ESS 0900
			CULG	0511.0	0539.0	CONT		1	30	180	
			LEAR	0513.0	0939.0	IV		1	25	146	
			SVTO	0514.0	1201.0	IV		1	35	85	
			CULG	0524.0	0536.0	III	GG	1	28	70	
			CULG	0547.0	0633.0	I	S	1	110	170	
	0550	1200	IZMI	0550.0E	1200.0D	I	S	2	50	270X	
			CULG	0600.0	0600.0	III	B	1	28	90	
			CULG	0611.0	0705.0D	CONT		1	50	170	
			CULG	0613.0	0635.0	III	N	1	28	160	
			IZMI	0613.0	0618.4	III	GG	2	25	260	
			LEAR	0613.0	0616.0	III		1	25	152	
			IZMI	0633.8	0635.0	III	G	2	45	180	
			SVTO	0721.0	0724.0	III		3	35	85	
			LEAR	0722.0	0724.0	III		3	25	180	
	0440	1810	BLEN	0722.0	0727.0	III	GG,U,V	3	220x	550x	
			ONDR	0722.1	0723.2	DCIM	GG	1	800X	1902	
			IZMI	0722.2	0723.6	III	GG,C,FS	3	25X	270X	
	0430	1744	ONDR	0722.3	0723.1	DCIM	G	2	2000	4412	
			HIRA	0723.0	0724.0	III	B	3	25X	700	
			IZMI	0723.7	0732.0U	CONT	FS	2	150	270X	
			IZMI	0739.5	0739.6	III	B	2	50	65	
			IZMI	0824.8	0824.9D	III	B	1	25	95	
			IZMI	0830.4	0830.7	III	B	2	30	140	
			SVTO	0957.0	0959.0	III		1	35	60	
			IZMI	0957.8	0958.0	III	B	2	25X	170	
			IZMI	1030.0	1030.3	III	G	1	45	95	
			BLEN	1047.6	1051.2	III	G,U,RS	2	250	550X	
			IZMI	1112.3	1112.4	III	B	2	25X	120	
			IZMI	1120.4	1120.5	III	B,FS	2	45	160	
			ONDR	1136.2	1136.4	DCIM	GG,SP	2	814	1152	
			SGMR	1247.0	1250.0	III		1	30	80	
			SVTO	1247.0	1250.0	III		1	35	82	
			BLEN	1316.5	1318.1	III	GG,S	2	250	550X	
			SVTO	1353.0	1416.0	III	N	1	35	85	
			SVTO	1355.0	1753.0	IV		1	35	85	
			SGMR	1400.0	1401.0	III		1	30	80	
			BLEN	1400.4	1408.1	III	GG,U	2	220X	500	
			ONDR	1406.2	1409.1	CONT		1	2254	4500X	
			SGMR	1507.0	1513.0	III		1	30	80	
			HOLL	1746.0	0007.0	CONT		1	25	180	
			HOLL	1802.0	2120.0	III	N	1	25	180	
			SGMR	1813.0	2045.0	CONT		1	30	60	
			PALE	1821.0	0459.0	CONT		1	35	180	
	1932	2400	HIRA								
	2110	2400	CULG	2110.0E	2400.0D	I	S	1	80	180	
			CULG	2119.0	2134.0	III	G	1	30	120	
19	0000	0710	CULG	0000.0E	0710.0D	I	S	1	70	180	

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19			CULG	0020.0	0021.0	III	G	1	60	300	
			CULG	0041.0	0148.0	III	N	1	30	180	
			LEAR	0148.0	0149.0	III		1	25	180	
			CULG	0150.0	0150.0	III	B	2	18	330	
			CULG	0230.0	0435.0	III	N	1	23	180	
			CULG	0238.0	0238.0	III	G	2	18	180	
			LEAR	0238.0	0238.0	III		1	25	180	
			LEAR	0354.0	0726.0	III	N	2	25	180	
			CULG	0427.0	0427.0	III	B	2	20	180	
			SVTO	0427.0	0427.0	III		1	35	80	
	0435	1810	BLEN	0440 X	1530 X	I	DC	3	220X	400	
			BLEN	0446.6	0452.5	III	GG,RS,U	3	220X	550X	
			CULG	0449.0	0453.0	III	GG	2	18X	750	
			SVTO	0449.0	0452.0	III		1	35	85	
	0000	0955	HIRA	0450.0	0453.0	III	G	2	25X	530	
			BLEN	0524.0	0524.6	III	GG,RS,U	2	220X	350	
			CULG	0524.0	0525.0	III	G	2	18	360	
			SVTO	0525.0	0525.0	III		1	35	85	
			SVTO	0535.0	0728.0	CONT		1	35	85	
			IZMI	0603.2U	1205.0D	III	N	1	45	95	
			IZMI	0603.5	0603.6	III	B	2	45	95	
	0604	1200	IZMI	0604.0E	1205.0D	I	S,C	2	50	270X	
			IZMI	0634.4	0634.4	III	B	1	190	270X	
			LEAR	0640.0	0728.0	CONT		1	65	180	
	0430	1743	ONDR	0648.2	0652.4	DCIM	G	2	2000X	4500X	
			BLEN	0649.0	0649.8	III	GG,RS,U	2	440	550X	
			ONDR	0649.1	0651.2	DCIM	G	1	800X	2000X	
			IZMI	0649.5	0650.5	III	G	1	30	260	
			CULG	0650.0	0710.0D	III	N	1	25	180	
			SVTO	0650.0	0726.0	III	N	3	35	85	
			IZMI	0653.6	0653.9	III	G,FS	2	25	145	
			CULG	0654.0	0654.0	III	B	2	25	90	
			ONDR	0655.4	0742.4	DCIM	GG,SP	2	800X	2000X	
			ONDR	0656.2	0702.5	DCIM	G	1	2000X	4500X	
			IZMI	0656.7	0703.3	III	GG,C	2	25	170	
			CULG	0658.0	0701.0	III	G	3	25	180	
			HIRA	0658.0	0707.0	III	G	3	30	320	
			IZMI	0703.8	0709.7	III	GG	2	25X	270X	
			BLEN	0704.0	0708.2	III	GG,S	3	220X	550X	
			CULG	0704.0	0707.0	III	GG	3	25	460	
			ONDR	0704.5	0709.0	DCIM	G	1	2000X	4500X	
			IZMI	0710.4	0721.2	III	N	2	25X	260	
			ONDR	0712.1	0748.0	DCIM	G	1	2000X	4500X	
			LEAR	0728.0	0939.0	IV		1	25	180	
			SVTO	0728.0	1325.0	IV		1	35	85	
			IZMI	0735.0U	0835.0U	CONT		2	45	180	
			BLEN	0742.3	0742.7	III	RS	2	400	550X	
			ONDR	0754.0	0805.5	DCIM	GG,FS	2	800X	903	
			IZMI	0802.1	0808.8	II	HARM	1	45	70	
			IZMI	0805.6	0811.3	III	G	1	30	55	
			IZMI	0836.8	0839.8	III	G,C	1	25X	95	
			IZMI	0849.4	0849.6	III	G	2	50	80	
			ONDR	0854.5	0911.5	DCIM		1	800X	903	
			IZMI	0855.9	0856.0	III	G,FS	2	45	95	
			ONDR	0922.3	0954.2	DCIM	GG	1	800X	1278	
			BLEN	0922.4	0924.1	III	G,U	2	300	550X	
			BLEN	1145.4	1147.3	III	G,RS	3	220X	550X	
			ONDR	1146.0	1146.1	DCIM		1	800X	1550	
			SGMR	1218.0	1529.0	CONT		1	30	80	
			SVTO	1354.0	1707.0	CONT		1	35	85	
			BLEN	1528.7	1529.0	III	G	1	220X	380	
			HOLL	1929.0	1932.0	III		1	25	83	
			SGMR	1929.0	1932.0	III		2	30	70	
	2110	2400	CULG	2110.0E	2400.0D	I	S	1	60	170	
			CULG	2121.0	2122.0	III	G	1	28	180	
	1933	2400	HIRA	2220.0	2221.0	III	B	2	50	200	
			HOLL	2221.0	2224.0	III		1	25	180	
20	0000	0710	CULG	0000.0E	0710.0U	I	S,C	1	60	170	

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Spectral Observations

JULY 2000

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
20			CULG	0006.0	0027.0	III	N	1	20	150	
			CULG	0116.0	0116.0	III	B	1	30	120	
			CULG	0234.0	0321.0	III	N	1	30	180	
			CULG	0325.0	0326.0	III	G	2	35	140	
			LEAR	0325.0	0326.0	III		1	25	180	
			SVTO	0501.0	0943.0	CONT		1	65	85	
			CULG	0551.0	0552.0	III	G	1	28	180	
			LEAR	0551.0	0552.0	III		2	25	180	
			SVTO	0551.0	0552.0	III		1	35	85	
	0000	0955	HIRA	0551.0	0551.0	III	B	2	50	400	
	0450	1805	BLEN	0551.0	0552.2	III	GG	3	220X	410	
	0431	1742	ONDR	0605.0	0606.4	DCIM	GG	2	809	1845	
	0607	1200	IZMI	0607.0E	1200.0D	I	S	2	50	260	
			IZMI	0610.6	0611.2	III	G	1	165	270X	
			CULG	0615.0	0619.0	III	G	1	28	180	
			LEAR	0615.0	0619.0	III		2	25	180	
			IZMI	0615.1	0615.9	III	G	2	60	270X	
			BLEN	0615.5	0615.9	III	G	3	220X	550X	
			SVTO	0618.0	0619.0	III		1	35	85	
			IZMI	0618.5	0619.2	III	G	2	25	135	
			IZMI	0642.1	0642.5	III	G	2	50	155	
			IZMI	0647.8	0648.1	III	B	2	50	120	
			CULG	0648.0	0649.0	III	G	1	30	120	
			LEAR	0728.0	0732.0	III		1	25	180	
			SVTO	0728.0	0736.0	III		2	35	85	
			IZMI	0728.8	0729.7	III	G,C	2	25X	260	
			HIRA	0729.0	0729.0	III	B	3	25X	210	
			IZMI	0729.9	0736.4	III	N	2	25	270X	
			IZMI	0814.3	0816.0	III	G	2	25	170	
			IZMI	0854.0U	1200.0D	III	N	1	45	100	
			IZMI	0904.5	1014.0U	III	N,FS	2	25X	240	
			IZMI	0916.8	0917.5	UNCLF	C	2	45	60	
			BLEN	0933.0	0943.0	III	GG,S	3	220X	550X	
			BLEN	0933.0	1530 X	I	DC,N	2	220X	430	
			ONDR	0933.2	0935.5	DCIM	GG	2	800X	2000X	
			ONDR	0933.2	0938.4	DCIM	G	2	2000X	4500X	
			LEAR	0934.0	0936.0	III		1	25	180	
			SVTO	0934.0	0938.0	III		2	35	85	
			IZMI	0934.1	0938.4	III	GG,C	2	25X	270X	
			HIRA	0935.0	0938.0	III	G	3	25X	480	
			SVTO	0943.0	1642.0	IV		1	35	85	
			IZMI	0943.3	0943.9	III	G	2	25	270X	
			IZMI	0945.0U	1111.0U	CONT		2	45U	180U	
			IZMI	0945.5	1100.0U	III	S	2	25	120	
			SVTO	1035.0	1037.0	III		2	35	85	
			IZMI	1035.6	1037.5	III	G,C	2	25X	270	
			SGMR	1036.0	1036.0	III		1	30	55	
			SGMR	1051.0	1326.0	CONT		1	30	50	
			IZMI	1126.4	1128.8	III	GG	1	30	160	
			IZMI	1154.6	1154.8	III	B	1	25	45	
			SVTO	1156.0	1202.0	III		2	05	85	
			SGMR	1157.0	1206.0	III		1	30	80	
			IZMI	1157.6	1159.9	III	G	1	25	65	
			BLEN	1201.9	1206.5	III	G	2	220X	450	
			ONDR	1204.5	1206.7	DCIM	W	1	2000X	4500X	
			ONDR	1205.0	1206.1	DCIM	G	1	800X	2000X	
			BLEN	1205.6	1206.5	DCIM	S	2	270	430	
			BLEN	1224.9	1227.0	III	GG	3	220X	550	
			SGMR	1225.0	1227.0	III		3	30	80	
			SVTO	1225.0	1226.0	III		2	35	85	
			ONDR	1225.1	1226.3	DCIM	G	1	800X	1545	
			ONDR	1225.3	1226.1	DCIM	G,W	1	2674	4500X	
			BLEN	1325.0	1414.8	III	GG,RS,N	1	220X	550X	
			ONDR	1326.1	1326.4	DCIM	GG,SP	2	959	2000X	
			ONDR	1326.1	1326.4	DCIM	GG,SP	2	2000X	2684	
			SGMR	1339.0	1457.0	III	N	2	30	80	
			ONDR	1358.2	1359.2	DCIM	W	1	2000X	4500X	
			ONDR	1358.2	1359.4	DCIM	W	1	969	2000X	
			HOLL	1455.0	1457.0	III		2	25	180	

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Spectral Observations

JULY 2000

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
20			SVTO	1455.0	1458.0	III		2	35	85	
			BLEN	1455.1	1504.6	III	GG,RS,N	1	220X	550X	
			ONDR	1456.3	1457.3	DCIM	GG,SP	2	2000X	4500X	
			ONDR	1456.3	1457.4	DCIM	GG,SP	2	800X	2000X	
			HOLL	1541.0	1543.0	III		1	25	152	
			SGMR	1541.0	1543.0	III		2	30	80	
			SVTO	1541.0	1543.0	III		2	35	85	
			ONDR	1545.2	1546.3	DCIM	G	1	2928	4500X	
			SGMR	1623.0	1624.0	III		1	30	80	
			HOLL	1642.0	1645.0	V		2	25	145	
			PALE	1642.0	1645.0	V		1	25	170	
			SVTO	1642.0	1645.0	V		2	35	85	
			SGMR	1643.0	1649.0	V		3	30	80	
			BLEN	1643.2	1645.0	DCIM	C	2	1000X	4000X	
			HOLL	1650.0	1706.0	II		1	28	86	ESS 0366
			SVTO	1651.0	1706.0	II		1	35	85	ESS 0600
			SGMR	1652.0	1707.0	II		2	30	60	ESS 1000
			HOLL	1732.0	1737.0	III		2	25	180	
			SVTO	1732.0	1733.0	III		1	46	85	
			PALE	1733.0	1733.0	III		2	45	180	
			PALE	1754.0	1911.0	CONT		1	25	180	
			SGMR	1835.0	2351.0	III	N	2	30	80	
			HOLL	1842.0	1849.0	V		1	25	178	
			PALE	1842.0	1846.0	III		1	25	180	
			HOLL	1917.0	2103.0	III	N	1	25	180	
			PALE	1925.0	1934.0	III		1	25	170	
			PALE	1929.0	1930.0	III		1	25	180	
	1934	2400	HIRA	2007.0	2019.0	III	G	3	25X	800	
			HOLL	2018.0	2019.0	III		2	25	180	
			SGMR	2018.0	2019.0	III		3	30	80	
			PALE	2102.0	2107.0	III		2	25	180	
			HIRA	2103.0	2106.0	III	G	2	25X	1300	
			HOLL	2103.0	2107.0	V		1	25	148	
			SGMR	2103.0	2107.0	III		2	30	80	
	2110	2400	CULG	2110.0E	2400.0D	I	S	1	80	170	
			CULG	2118.0	2119.0	III	G	2	40	440	
			CULG	2140.0	2151.0	III	G	3	30	430	
			HOLL	2140.0	0036.0	III	N	1	25	180	
			HIRA	2144.0	2145.0	III	B	3	50	250	
			CULG	2157.0	2347.0	III	N	1	30	180	
			CULG	2221.0	2223.0	III	G	2	25	140	
			CULG	2240.0	2240.0	III	B	3	30	600	
			HIRA	2240.0	2241.0	III	B	3	25X	210	
			CULG	2259.0	2301.0	III	G	2	30	180	
			CULG	2308.0	2309.0	III	G	2	28	770	
			CULG	2315.0	2319.0	III	G	2	30	530	
			CULG	2325.0	2326.0	III	G	2	40	180	
			LEAR	2325.0	2326.0	III		1	34	178	
21	0000	0710	CULG	0000.0E	0330.0	I	S	1	80	170	
			LEAR	0002.0	0015.0	III		2	25	180	
			PALE	0002.0	0005.0	III		2	25	180	
			PALE	0002.0	0458.0	CONT		1	25	180	
			CULG	0003.0	0004.0	III	G	3	20	470	
	0000	0954	HIRA	0003.0	0004.0	III	B	2	30	460	
			CULG	0015.0	0015.0	III	B	2	25	180	
			PALE	0015.0	0015.0	III		1	25	130	
			CULG	0027.0	0251.0	III	N	1	25	180	
			LEAR	0035.0	0039.0	III		1	25	180	
			PALE	0035.0	0036.0	III		1	25	180	
			CULG	0057.0	0103.0	III	GG	3	18X	400	
			HIRA	0057.0	0103.0	III	G	3	25X	380	
			HOLL	0057.0	0103.0	V		1	25	180	
			LEAR	0057.0	0102.0	V		3	25	180	
			PALE	0057.0	0103.0	V		2	25	75	
			LEAR	0117.0	0120.0	III		1	25	160	
			HOLL	0119.0	0120.0	III		1	25	124	
			PALE	0119.0	0120.0	III		2	25	180	
			CULG	0120.0	0120.0	III	B	3	20	150	

SOLAR RADIO EMISSION
Spectral Observations

JULY 2000

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
21			CULG	0336.0	0344.0	III	GG	1	18	180	
			LEAR	0336.0	0355.0	III		1	25	180	
			CULG	0350.0	0423.0	III	N	1	18	180	
			CULG	0355.0	0356.0	III	G	2	18	180	
			HIRA	0355.0	0402.0	III	G	3	25X	2000	
			PALE	0355.0	0402.0	V		3	25	180	
			CULG	0400.0	0403.0	III	G	3	18X	750	
			LEAR	0400.0	0403.0	V		3	25	180	
			SVTO	0400.0	0403.0	V		2	35	85	
			SVTO	0410.0	0738.0	III	N	1	35	85	
			CULG	0412.0	0421.0	II	SH	1	40	80	ESS 450
			LEAR	0417.0	0421.0	III		1	25	148	
			PALE	0417.0	0421.0	III	N	1	25	180	
			CULG	0421.0	0421.0	III	B	2	18	140	
	0440	1810	BLEN	0440 X	1530 X	I	DC	3	220X	450	
			LEAR	0450.0	0451.0	III		1	25	154	
			CULG	0451.0	0451.0	III	B	2	20	180	
			CULG	0454.0	0710.0D	III	N	1	28	180	
			LEAR	0512.0	0516.0	V		3	25	180	
			SVTO	0513.0	0517.0	V		3	35	85	
	0432	1741	ONDR	0513.4	0514.0	DCIM	GG,SP	2	800X	2000X	
			BLEN	0513.6	0523.1	III	GG,C	3	220X	550X	
			CULG	0514.0	0515.0	III	B	3	18X	750	
			HIRA	0514.0	0523.0	III	G	3	25X	1800	
			CULG	0517.0	0517.0	III	B	3	28	180	
			LEAR	0518.0	0524.0	III		3	25	180	
			SVTO	0520.0	0523.0	V		3	35	85	
			ONDR	0521.0	0523.2	DCIM	GG	2	800X	2000X	
			CULG	0523.0	0523.0	III	B	3	18X	800	
			LEAR	0529.0	0552.0	III	N	1	25	180	
			SVTO	0544.0	1751.0	CONT		1	35	85	
	0551	1200	IZMI	0551.0U	1200.0D	I	S	1	55	270X	
			BLEN	0552.1	0552.8	III	GG	2	220X	550X	
			IZMI	0552.2	0552.5	III	GG,FS	2	25	270X	
			IZMI	0601.6	0602.0	III	G	2	185	270X	
			IZMI	0609.0U	1200.0D	III	N	1	45U	95U	
			CULG	0706.0	0707.0	III	G	2	23	90	
			LEAR	0706.0	0707.0	III		1	25	105	
			SVTO	0706.0	0707.0	III		2	35	85	
			IZMI	0706.6	0707.7	III	GG	2	25	240	
			IZMI	0711.0U	0717.0U	III	N	2	45	95	
			LEAR	0824.0	0940.0	CONT		1	75	162	
			ONDR	0841.3	0842.3	DCIM	G,SP	2	800X	1081	
			IZMI	0906.5	0907.1	III	G	2	45	210	
			ONDR	1010.1	1011.1	DCIM	G,W	1	2000X	4500X	
			ONDR	1010.1	1011.1	DCIM	GG	1	828	2000X	
			BLEN	1011.0	1014.3	III	GG	2	250	500	
			IZMI	1020.8	1021.4	III	G	2	25	100	
			IZMI	1040.8	1041.0	III	G	2	35U	120	
			ONDR	1053.3	1054.2	DCIM	W	1	2000X	4500X	
			IZMI	1120.5	1121.7	III	GG	2	110	270X	
			BLEN	1120.6	1121.3	III	GG,U	3	220X	550X	
			SVTO	1217.0	1218.0	III		1	71	84	
			BLEN	1217.1	1219.6	III	GG,U	3	220X	550X	
			ONDR	1326.5	1327.3	DCIM		1	2518	4500X	
			ONDR	1405.3	1410.0	DCIM	G	1	2254	4500X	
			ONDR	1434.3	1435.2	DCIM	G	2	800X	1827	
			ONDR	1434.3	1436.3	DCIM	G	1	2000X	4500X	
			SGMR	1435.0	1441.0	III		1	30	80	
			HOLL	1439.0	1441.0	III		1	66	157	
			SVTO	1439.0	1457.0	II		1	35	85	ESS 0600
			HOLL	1440.0	1444.0	II		1	72	180	ESS 0557
			HOLL	1448.0	1457.0	II		1	26	87	ESS 0485
			SGMR	1448.0	1457.0	II		2	30	75	ESS 0600
			HOLL	1608.0	1612.0	III		1	25	180	
			SVTO	1610.0	1613.0	III		2	35	85	
			SGMR	1611.0	1613.0	III		2	30	80	
			PALE	1727.0	1728.0	III		1	25	76	
	1935	2400	HIRA								

S O L A R R A D I O E M I S S I O N
Spectral Observations

JULY 2000

Day	OBSERVATION Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
21	2110	2400	CULG	2110.0E	2400.0D	I	S	1	60	180	
			PALE	2142.0	2326.0	III	N	2	25	180	
			LEAR	2319.0	0940.0	CONT		1	75	180	
22	0000	0953	HIRA								
	0000	0710	CULG	0000.0E	0710.0D	I	S	1	60	180	
			CULG	0020.0	0710.0D	III	S,C	2	18	180	
			PALE	0041.0	0458.0	CONT		1	29	140	
			LEAR	0349.0	0349.0	III		2	25	180	
			PALE	0349.0	0349.0	III		1	30	150	
			SVTO	0432.0	0648.0	CONT		1	35	85	
			SVTO	0432.0	1137.0	CONT		1	35	85	
	0440	1805	BLEN	0458.0	0535.0	II	H	2	220X	400	
			IZMI	0551.0E	1022.0D	III	N	2	45	135U	
			IZMI	0551.0E	1200.0D	III	N	1	45	135U	
	0551	1022	IZMI	0551.0E	1022.0D	I	S	2	50	270X	
	0433	1740	ONDR	0608.3	0608.3	DCIM	G,SP	2	814	917	
			ONDR	0619.0	0619.0	DCIM	G,SP	2	950	1105	
			ONDR	0654.2	0655.4	DCIM	GG,SP	2	814	1320	
			IZMI	0659.6	0700.0	III	G	2	25	270X	
			LEAR	0751.0	0751.0	III		2	53	180	
			BLEN	0751.2	0751.3	III	B	2	220X	400	
			IZMI	0751.2	0751.4	III	B	2	35	270X	
			ONDR	0824.4	0824.5	UNCLF		2	2381	4500X	
			BLEN	0846.1	0848.3	III	GG,U,RS	3	240	550X	
			IZMI	0847.2	0847.6	III	GG	2	225	270X	
			IZMI	0856.6	0857.4	III	GG	2	50	240	
			IZMI	0900.5	0900.7	III	G	2	25	120	
	1033	1200	IZMI	1033.0E	1200.0D	I	S	2	50	270X	
			IZMI	1108.0	1108.7	III	G	2	55	170	
			ONDR	1117.5	1204.3	DCIM	GG	2	800X	2000X	
			BLEN	1118.0	1146.5	IV	S	3	220X	550X	
			ONDR	1118.2	1153.1	DCIM	GG	1	2000X	4500X	
			SGMR	1125.0	1139.0	II		2	30	80	ESS 0900
			SVTO	1125.0	1141.0	II		2	35	85	ESS 1000
			IZMI	1125.8	1144.0	II	FS	2	25U	160	
			IZMI	1133.0U	1138.0U	CONT		2	135	270X	
			IZMI	1136.7	1136.9	III	G	2	200	260	
			IZMI	1137.0	1144.0U	III	N	1	200	270	
			SVTO	1137.0	1751.0	IV		1	35	85	
			IZMI	1139.6	1139.7	III	G	2	200	240	
			IZMI	1154.6	1156.0	UNCLF	C	2	50	100	
			HOLL	1326.0	1326.0	III		1	42	180	
			SGMR	1326.0	1327.0	III		2	30	80	
			SVTO	1326.0	1327.0	III		2	36	83	
			SGMR	1407.0	1514.0	III	N	1	30	70	
			HOLL	1506.0	1507.0	III		1	25	180	
			SVTO	1506.0	1507.0	III		2	35	85	
			BLEN	1506.3	1507.0	III	GG	2	220X	550X	
			HOLL	1636.0	1637.0	III		1	25	160	
			SGMR	1637.0	1637.0	III		1	30	55	
			BLEN	1650.0	1650.6	III	GG	2	1000	1500	
	1935	2400	HIRA								
			SGMR	2049.0	2107.0	III	N	1	30	80	
			CULG	2105.0	2400.0D	I	S,C	1	60	160	
	2105	2400	CULG	2105.0E	2400.0D	III	S	1	30	180	
			PALE	2107.0	2114.0	III		1	25	55	
			LEAR	2318.0	0941.0	CONT		1	25	180	
			CULG	2323.0	2324.0	III	G	2	20	180	
23			CULG	0000.0E	0710.0D	I	S,C	1	60	160	
	0000	0710	CULG	0000.0E	0453.0	III	S	1	30	180	
			PALE	0150.0	0151.0	III		1	25	180	
	0000	0952	HIRA	0150.0	0151.0	III	B	1	80	300	
			HIRA	0433.0	0435.0	III	G	1	50	520	
			BLEN	0501.0	1530 X	I	DC,N	2	220X	380	
			BLEN	0503.4	0503.9	III		1	330	450	
			SVTO	0540.0	1658.0	CONT		1	35	85	
	0559	0940	IZMI	0559.0	0940.0D	I	S	2	50	270X	

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23			CULG	0629.0	0652.0	III	N	1	28	130	
			IZMI	0629.0	0630.3	III	GG	2	45	270X	
			IZMI	0644.3	0649.0	III	N	2	45	120	
			IZMI	0825.2	0826.1	UNCLF		2	45	120	
			IZMI	0832.0U	0940.0D	III	N	2	45	110	
			IZMI	0927.4	0927.9	III	G	2	25	135	
			IZMI	0951.0E	1200.0D	III	N	2	45	110	
	0651	1200	IZMI	0951.0E	1200.0D	I	S	2	50	270	
	0434	1739	ONDR	0951.5	0953.2	DCIM	W	1	2000X	4500X	
			ONDR	0953.1	0958.0	DCIM	W	1	1433	2000X	
			ONDR	0956.0	0959.5	DCIM	G	2	2000X	4500X	
			IZMI	1006.4	1006.8	III	B	2	25	170	
			IZMI	1016.0	1016.6	III	G	2	25	180	
			ONDR	1024.3	1030.2	DCIM	G,W	1	800X	1784	
			BLEN	1026.6	1028.6	DCIM	P	3	220X	550X	
			IZMI	1027.3	1028.4	III	G	2	30	260	
			IZMI	1040.3	1043.5	II		1	105	270X	
			HOLL	1254.0	0055.0	III	N	1	25	180	
			ONDR	1359.1	1400.2	DCIM	G	1	1738	2000X	
			ONDR	1406.1	1414.0	DCIM	G	1	2000X	4500X	
			SGMR	1700.0	1700.0	III		1	30	50	
			HOLL	2049.0	0059.0	III	N	1	25	161	
			CULG	2105.0E	2400.0D	III	S	1	35	170	
	2105	2400	CULG	2105.0E	2400.0D	I	S,C	1	60	170	
			HOLL	2243.0	2244.0	III		1	25	180	
			CULG	2244.0	2244.0	III	B	1	23	330	
			LEAR	2317.0	0000.0	CONT		1	43	180	
			LEAR	2318.0	0346.0	CONT		1	43	180	
			PALE	2318.0	0446.0	CONT		1	25	180	
			PALE	2323.0	2324.0	III		1	25	75	
			HOLL	2331.0	0059.0	CONT		1	25	180	
24	0000	0710	CULG	0000.0E	0316.0	I	S	1	60	160	
			CULG	0150.0	0150.0	III	B	3	25	770	
			LEAR	0150.0	0151.0	III		2	25	180	
			PALE	0150.0	0203.0	III	N	1	25	180	
			CULG	0154.0	0204.0	III	G	1	20	180	
			CULG	0245.0	0248.0	III	G	1	30	150	
			LEAR	0245.0	0245.0	III		1	25	180	
			PALE	0245.0	0245.0	III		1	25	125	
			LEAR	0511.0	0512.0	III		1	25	140	
	0435	1738	ONDR	0531.1	0531.2	DCIM		1	828	1156	
	0440	1800	BLEN	0731.1	0731.9	III	GG	2	340	380	
	0607	0859	IZMI	0736.7	0737.2	III	G	1	50	120	
			BLEN	0902.9	0903.8	III	GG,S	2	220X	440	
			LEAR	0903.0	0903.0	III		1	75	180	
			SVTO	0903.0	0903.0	III		1	35	53	
			ONDR	0903.2	0903.5	DCIM	W	1	800X	2000X	
	0910	1200	IZMI	0910.9	0911.0	III	G,FS	2	50	145	
			BLEN	0911.9	0915.5	III	GG,S	2	220X	380	
			IZMI	0912.0	0912.5	III	G	1	110	265	
			IZMI	0914.9	0915.6	III	G,C	2	55	270X	
			LEAR	0915.0	0915.0	III		1	82	109	
			IZMI	1021.9	1022.8	I	GG	2	240	270X	
			IZMI	1026.6	1026.7	III	B,FS	1	215	260	
			ONDR	1221.5	1222.2	DCIM	GG	3	2000X	3113	
			ONDR	1221.5	1222.3	DCIM	GG,FS	3	1573	2000X	
			SGMR	1542.0	1543.0	III		1	30	55	
			SVTO	1542.0	1543.0	III		1	35	58	
			HOLL	1703.0	1703.0	III		1	25	97	
			SGMR	1703.0	1703.0	III		1	30	60	
			SVTO	1703.0	1703.0	III		1	35	54	
			PALE	1734.0	1734.0	III		1	25	65	
			SGMR	1734.0	1734.0	III		1	30	75	
	2105	2400	CULG								
	2332	2400	HIRA								
25			HOLL	0036.0	0037.0	III		1	25	158	
			LEAR	0036.0	0037.0	III		2	25	180	

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25			PALE	0036.0	0037.0	III		2	25	180	
	0000	0710	CULG	0037.0	0038.0	III	G	2	20	180	
	0000	0950	HIRA	0037.0	0038.0	III	B	1	25X	170	
			CULG	0119.0	0303.0	III	N	1	30	160	
			LEAR	0230.0	0231.0	III		1	25	79	
			CULG	0247.0	0248.0	III	G	3	18X	1800X	
			HIRA	0247.0	0301.0	II		3	25X	2000	
			LEAR	0247.0	0254.0	III		1	25	180	
			PALE	0247.0	0252.0	III		2	25	75	
			CULG	0248.0	0255.0	II	FN	3	50	270	ESS 700
			CULG	0248.0	0255.0	II	SH	2	100	550	
			PALE	0248.0	0253.0	II		2	40	180	ESS 0970
			CULG	0249.0	0256.0	III	G	2	18	180	
			LEAR	0249.0	0252.0	II		1	68	178	ESS 0903
			PALE	0254.0	0301.0	V		3	25	160	
			CULG	0255.0	0301.0	UNCLF		3	18X	130	
			LEAR	0255.0	0716.0	IV		1	25	180	
			CULG	0303.0	0328.0U	CONT		1	40	170	
			CULG	0327.0	0515.0	IV		2	30U	470	
			HIRA	0327.0	0517.0	IV		3	140	400	
			LEAR	0333.0	0335.0	V		2	25	180	
			PALE	0333.0	0334.0	III		2	25	180	
			CULG	0334.0	0335.0	III	G	2	18X	180	
			CULG	0407.0	0408.0	III	G	1	18	150	
			CULG	0421.0	0549.0	I	S	1	80	160	
	0440	1800	BLEN								
	0551	1200	IZMI	0551.0E	1200.0D	I	S	1	200	270X	
			IZMI	0605.2	0605.3	III	B	1	45	70	
			IZMI	0647.9	0648.2	III	G	1	50	95	
			IZMI	0652.4	0655.1	III	N	1	45	95	
			IZMI	0726.0	0726.1	III	B	1	45	90	
			IZMI	0733.9	0734.0	III	B	1	45	65	
			IZMI	0734.7	0740.4	I	N	2	55	120	
			LEAR	0735.0	0735.0	III		1	25	119	
			SVTO	0735.0	0736.0	III		1	36	83	
			IZMI	0735.6	0735.8	III	G,C	2	25	240	
			SVTO	0831.0	0831.0	III		1	36	51	
			IZMI	0835.0	1200.0D	I	S	1	80	270X	
			IZMI	0900.5	0901.0	III	G	1	45	65	
	0627	1737	ONDR	1234.2	1239.5	DCIM	G	1	2244	4500X	
			SGMR	1317.0	1317.0	III		1	30	60	
			SVTO	1317.0	1317.0	III		1	36	63	
			HOLL	1601.0	1603.0	III		1	25	180	
			SVTO	1601.0	1649.0	III	N	1	35	85	
			SGMR	1721.0	1721.0	III		1	30	65	
			HOLL	1846.0	1847.0	III		1	108	180	
			HOLL	1858.0	1858.0	III		1	63	180	
			PALE	2001.0	2001.0	III		1	25	180	
			HOLL	2037.0	2041.0	III		1	25	146	
			PALE	2037.0	2038.0	III		1	25	150	
			SGMR	2037.0	2038.0	III		1	30	80	
	2105	2400	CULG	2153.0	2400.0D	I	S	1	100	180	
			LEAR	2324.0	0905.0	CONT		1	25	180	
			CULG	2341.0	2400.0D	III	S	1	60	180	
26			CULG	0000.0E	0135.0	III	S	1	40	180	
	0000	0710	CULG	0000.0E	0710.0D	I	S	1	60	170	
			LEAR	0011.0	0011.0	III		1	25	64	
			PALE	0011.0	0011.0	III		1	25	75	
			CULG	0135.0	0508.0	III	N	1	35	170	
			CULG	0559.0	0559.0	III	B	1	28	150	
	0555	1200	IZMI	0559.3	0559.5	III	B	2	120	180	
			IZMI	0603.0U	1200.0D	I	N	1	110	260	
	0626	1736	ONDR								
			SVTO	0701.0	0714.0	III	N	1	37	83	
			IZMI	0701.7	0701.9	III	B	1	45	90	
			IZMI	0706.0	0706.6	III	G	2	70	100	
			IZMI	0713.4	0714.2	III	GG	2	45	115	
			IZMI	0718.2	0718.7D	III	G	1	55	135	

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26			IZMI	0956.8	0957.2	III	G,U	2	55	170	
	0455	1800	BLEN	1124.9	1125.2	III	G	2	220X	400	
			IZMI	1143.2	1143.7	III	G	2	95	270X	
			BLEN	1342.0	1342.6	III	GG	2	220X	400	
			BLEN	1350.0	1530 X	I	GG	2	220X	400	
			SVTO	1429.0	1747.0	CONT		1	35	85	
			HOLL	2209.0	2211.0	III		1	25	147	
			PALE	2209.0	2212.0	III		1	25	160	
	2105	2400	CULG	2209.0	2212.0	III	G	2	30	280	
			SGMR	2210.0	2211.0	III		1	30	70	
	1938	2400	HIRA	2211.0	2212.0	III	B	2	25X	300	
			CULG	2229.0	2330.0	III	S	1	60	170	
27	0000	0949	HIRA	0113.0	0114.0	III	B	1	200	620	
	0000	0710	CULG	0114.0	0117.0	III	G	1	18	160	
			CULG	0141.0	0141.0	III	B	1	60	180	
			CULG	0202.0	0207.0	III	G	1	25	90	
			CULG	0223.0	0223.0	III	B	1	30	90	
			CULG	0346.0	0346.0	III	B	1	35	90	
			CULG	0358.0	0358.0	III	B	1	100	180	
			CULG	0408.0	0409.0	III	G	1	360	660	
			CULG	0411.0	0415.0	II	SH	1	55	140	SWF ESS 850
			CULG	0413.0	0415.0	II	FN	1	110	160	
			CULG	0436.0	0443.0	III	G	2	20	280	
			LEAR	0436.0	0442.0	III		2	25	180	
			PALE	0436.0	0441.0	III		1	25	180	
			SVTO	0436.0	0441.0	III		1	35	85	
			HIRA	0440.0	0441.0	III	B	2	25X	320	
			HIRA	0446.0	0447.0	III	B	2	25X	240	
	0627	1735	ONDR								
			SVTO	0718.0	0723.0	III		1	37	53	
	0601	1200	IZMI	0718.5	0719.4	III	G	1	50	100	
			IZMI	0734.6	0734.7	III	B	1	45	95	
			IZMI	0925.0	0925.5	III	G	2	190	270X	
			IZMI	1017.4	1017.5	III	B	1	45	70	
			IZMI	1030.1	1030.1	III	B	1	45	95	
			IZMI	1056.8	1056.9	III	B	1	50	90	
			IZMI	1109.3	1109.5	III	G	2	130	250	
			IZMI	1138.8	1138.9	III	B	1	50	85	
			SVTO	1227.0	1227.0	III		1	35	50	
			SVTO	1401.0	1448.0	III	N	1	35U	64U	
	1939	2400	HIRA								
	2105	2400	CULG	2149.0	2149.0	III	B	1	40	60	
			CULG	2156.0	2156.0	III	B	1	28	130	
			CULG	2200.0	2201.0	III	G	1	28	260	
28	0000	0710	CULG	0135.0	0136.0	III	G	1	30	180	
			CULG	0202.0	0202.0	III	B	1	60	130	
			CULG	0356.0	0358.0	III	G	1	20	250	
			LEAR	0356.0	0357.0	III		1	25	180	
	0000	0948	HIRA	0356.0	0357.0	III	B	1	25X	300	
	0626	1734	ONDR								
			SVTO	0641.0	0641.0	III		1	35	50	
	0600	1158	IZMI	0711.0U	0955.0U	I	N	1	200X	270X	
	0455	1800	BLEN	0723.0	0732.4	III	GG,RS	2	220X	430	
			IZMI	0726.2	0727.4	III	GG	1	200	270X	
			IZMI	0731.3	0733.6	III	GG	2	200	270X	
			IZMI	0817.3	0819.7	III	GG	2	190	270X	
			BLEN	0817.6	0818.6	III	GG,J	2	220X	350	
			SVTO	0830.0	0832.0	III		1	35	61	
			IZMI	0830.3	0831.7	III	G	2	30	270X	
			BLEN	0832.6	0832.7	III	B,J	2	220X	350	
			SVTO	0910.0	0957.0	III	N	1	35	58	
			IZMI	0931.3	0935.7	III	GG	2	25	215	
			IZMI	0944.0	0944.2	III	G	2	190	270X	
			IZMI	0956.2	1002.5	III	N	1	25	100	
			IZMI	0957.8	1000.0	III	GG	2	185	270X	
			IZMI	1033.6	1033.8	III	B	1	45	90	
			SVTO	1200.0	1200.0	III		1	35	54	

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28			SVTO	1238.0	1240.0	III		1	36	49	
			SVTO	1304.0	1304.0	III		1	36	40	
			SVTO	1420.0	1421.0	III		1	35	53	
			SVTO	1451.0	1451.0	III		1	35	57	
			SVTO	1509.0	1549.0	III	N	1	35U	50U	
			PALE	1937.0	1938.0	III		1	25	84	
			SGMR	1937.0	1938.0	III		1	30	60	
	2105	2400	CULG	2117.0	2125.0	III	G	1	50U	180	
			CULG	2138.0	2138.0	III	B	1	60	130	
			PALE	2141.0	2142.0	III		1	25	65	
			SGMR	2141.0	2142.0	III		1	30	60	
			CULG	2142.0	2142.0	III	B	2	25	170	
			CULG	2208.0	2217.0	III	GG	2	30	180	
			PALE	2208.0	2239.0	III	N	1	25	145	
			SGMR	2209.0	2237.0	III	N	1	30	80	
	1940	2400	HIRA	2209.0	2211.0	III	G	1	50	180	
			CULG	2222.0	2226.0	II	FN,H	2	30	50	
			CULG	2222.0	2227.0	II	SH	2	35	100	ESS 1300
			HIRA	2222.0	2224.0	II		1	50	100	
			CULG	2228.0	2242.0	III	GG	2	23	100	
			CULG	2316.0	2317.0	III	G	1	25	160	
			CULG	2331.0	2400.0D	I	S	1	110	170	
			CULG	2339.0	2400.0D	III	N	1	28	160	
29	0000	0947	HIRA								
			CULG	0000.0E	0047.0	III	N	1	40	170	
	0000	0710	CULG	0000.0E	0044.0	I	S	1	100	160	
			CULG	0222.0	0222.0	III	B	1	30	90	
			CULG	0257.0	0307.0	III	GG	1	35	170	
			CULG	0439.0	0440.0	III	G	1	45	90	
			CULG	0551.0	0710.0D	III	N	1	28	140	
			LEAR	0553.0	0554.0	III		1	25	128	
			SVTO	0553.0	0554.0	III		1	35	85	
			IZMI	0626.0U	1200.0D	I	S	1	80	270X	
			LEAR	0626.0	0917.0	CONT		1	75	180	
	0601	1200	IZMI	0626.0U	1200.0D	III	N	1	45	95	
	0627	1736	ONDR								
			CULG	0627.0	0710.0D	I	S	1	110	170	
	0455	1800	BLEN	0712.1	0713.7	III	GG	2	220X	550X	
			IZMI	0712.7	0712.8	III	B	1	200	250	
			SVTO	0801.0	0801.0	III		1	35U	54U	
			IZMI	0812.8	0814.1	III	GG,FS	2	50	145	
			SVTO	0833.0	0833.0	III		1	35	63	
			IZMI	0833.1	0833.7	III	G	2	25	120	
			IZMI	0930.2	0930.3	III	B	1	50	140	
			IZMI	0932.9	0939.0	III	GG	2	40	140	
			SVTO	0937.0	0938.0	III		1	36	71	
			SVTO	1007.0	1023.0	V		1	35	60	
			IZMI	1012.6	1022.6	III	S	2	30	160	
			IZMI	1051.1	1051.8	III	G,FS	2	40	160	
			IZMI	1052.4	1052.5	III	G,FS	2	45	170	
			IZMI	1117.6	1119.3	III	G,FS	2	45	160	
			BLEN	1258.0	1258.2	III	J	2	230	400	
			SGMR	1316.0	1316.0	III		1	30	60	
			SVTO	1316.0	1316.0	III		1	35	59	
	1941	2400	HIRA								
	2105	2400	CULG	2105.0E	2311.0	I	S	1	80	170	
			CULG	2223.0	2223.0	III	B	1	120	300	
			CULG	2328.0	2329.0	III	G	1	28	90	
30			LEAR	0214.0	0216.0	III		1	25	136	
			PALE	0215.0	0216.0	III		1	35	150	
	0000	0710	CULG	0215.0	0217.0	III	G	1	30	170	
	0000	0946	HIRA	0216.0	0217.0	III	G	1	50	320	
			CULG	0445.0	0445.0	III	B	1	25	120	
	0455	1800	BLEN	0455 X	1530 X	I	DC	1	220X	300	
			BLEN	0536.8	0537.5	III	GG,S	2	220X	380	
			BLEN	0549.0	0549.2	III	S	2	220X	520	
			CULG	0549.0	0549.0	III	B	2	30	170	

S O L A R R A D I O E M I S S I O N
Spectral Observations

JULY 2000

OBSERVATION Day	Start (UT)	End (UT)	Sta	EVENT Start (UT)	End (UT)	Spectral Class	Event Remarks	Int (1-3)	FREQUENCY Lower (MHz)	Upper (MHz)	Remarks
30			LEAR	0549.0	0555.0	III		1	25	180	
			SVTO	0549.0	0609.0	III	N	1	41	85	
	0550	1201	IZMI	0555.2	0555.6	III	GG,U	2	45	270X	
			CULG	0556.0	0556.0	III	B	2	28	180	
			HIRA	0558.0	0559.0	III	B	1	50	280	
			CULG	0609.0	0610.0	III	G	1	28	90	
			IZMI	0609.4	0609.9	III	G,C	2	45	160	
			HIRA	0702.0	0703.0	III	B	2	40	290	
			LEAR	0707.0	0708.0	III		1	25	180	
			SVTO	0707.0	0708.0	III		2	36	85	
			IZMI	0707.7	0708.4	III	G,U	2	25	270	
			CULG	0708.0	0708.0	III	G	3	28	180	
			SVTO	0755.0	0756.0	III		1	35	57	
			IZMI	0755.8	0756.2	III	G	1	25	90	
			IZMI	0853.9	0854.4	III	G,C	2	50	270	
			IZMI	0948.1	0948.9	III	G	2	200	270X	
			IZMI	0950.7	0950.9	III	G	2	55	170	
			IZMI	1044.0U	1104.0U	I	N	1	215	270X	
			SVTO	1200.0	1206.0	V		2	35	85	
			IZMI	1200.8	1201.0D	III	G	2	45	140	
			SGMR	1201.0	1231.0	III	N	2	30	80	
			SVTO	1212.0	1231.0	III	N	1	35	62	
	1220	1732	ONDR								
	1941	2400	HIRA								
	2105	2400	CULG								
31	0000	0945	HIRA								
	0450	1755	BLEN	0450 X	1530 X	I	DC	3	220X	350	
			LEAR	0510.0	0510.0	III		1	25	180	
			SVTO	0510.0	0510.0	III		1	35	64	
	0000	0710	CULG	0510.0	0511.0	III	G	1	23	150	
	0627	1730	ONDR								
	0644	1200	IZMI	0831.3	0831.5	III	B	1	45	90	
			IZMI	1021.5	1021.6	III	B	2	45	95	
			SGMR	1321.0	1321.0	III		1	30	80	
			SVTO	1321.0	1321.0	III		1	35	82	
			SVTO	1343.0	1343.0	III		1	35	53	
			SVTO	1603.0	1606.0	III		1	35	85	
	1942	2400	HIRA								
	2100	2400	CULG	2223.0	2224.0	III	G	1	60	140	

Event Remarks:

B = Single burst
C = Underlyling continuum (particularly with Type I)
DC = Drifting chains
DP = Drifting pairs
F = Fundamental emission (Type II)
FS = Fine structures (Type IV)
G = Small group of bursts (<10)
GG = Large group of bursts (>10)
H = Herringbone
HARM = Harmonic
N = Intermittent activity in this period
MOV = Moving (Type IV)
MWB = Meter wave burst
RS = Reverse slope burst
S = Storm in the sense of intermittent but apparently connected actively
SH = Secondary harmonic emission
STA = Stationary (Type IV)
U = U-shaped burst of Type III
UE = Uncertain emission (Type II)
W = Weak

Frequency qualifiers:

X = Extends beyond instrument range
U = Uncertain frequency

Remarks:

SWF = Associated short wave fade observed
ESS = Estimated shock speed in km/s (Type II)
FLA = Associated flare observed (class optional)

Stations Reporting:

CULG = Culgoora IZMI = Izmiran LEAR = Learmonth ONDR = Ondrejov
PALE = Palehua POTS = Potsdam SGMR = Sagamore Hill SVTO = San Vito
BLEN = Bleien