

G-28 Ku-band Sun outage Fall 2009

Description :
 Spacecraft : G-28
 Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Antennas for Sun Outage Predictions

Name	Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
Oakland	37.800	122.270	0.000	0.400
Riverside	33.800	117.090	0.000	0.400
Sacramento	38.580	121.500	0.000	0.400
San Diego	32.700	117.170	0.000	0.400
San Francisco	37.800	122.400	164.042	0.400
San Jose	37.330	121.880	0.000	0.400
Denver	39.800	105.000	17060.368	0.400
Grand Junction	39.080	108.550	0.000	0.400
Hartford	41.800	72.700	164.042	0.400
New Haven	41.320	72.920	0.000	0.400
Washington	38.880	77.000	328.084	0.400
Wilmington	39.800	75.600	328.084	0.400
Jacksonville	30.330	81.650	164.042	0.400
Key West	24.550	81.800	0.000	0.400
Miami	25.780	80.180	164.042	0.400
Orlando	28.530	81.380	328.084	0.400
Tampa	27.950	82.450	0.000	0.400
Atlanta	33.760	84.380	3280.840	0.400
Savannah	32.060	81.080	164.042	0.400
Hilo	19.730	155.080	164.042	0.400
Honolulu	21.320	157.860	164.042	0.400
Boise	43.620	116.200	8858.268	0.400
Idaho Falls	43.500	112.020	0.000	0.400
Lewiston	46.400	117.030	0.000	0.400
Pocatello	42.850	112.450	14435.696	0.400
Chicago	41.860	87.650	1968.504	0.400
Springfield	39.820	89.650	1968.504	0.400
Indianapolis	39.760	86.160	2296.588	0.400
South Bend	41.680	86.250	2296.588	0.400
Cedar Rapids	42.530	91.450	2395.013	0.400
Des Moines	41.600	93.630	2624.672	0.400
Dubuque	42.520	90.670	0.000	0.400
Sioux City	42.600	96.400	3608.924	0.400
Kansas City	39.110	94.630	2296.588	0.400
Wichita	37.720	97.280	0.000	0.400
Bowling Green	37.000	86.450	1640.420	0.400
Lexington	38.050	84.500	2952.756	0.400
Louisville	38.250	85.770	0.000	0.400
Witchita	37.700	97.330	4265.092	0.400
New Orleans	29.950	90.060	164.042	0.400
Shreveport	32.520	93.750	656.168	0.400
Andover	44.630	70.700	0.000	0.400
Bangor	44.800	68.780	0.000	0.400
Caribou	46.860	68.100	1443.570	0.400
Eastport	44.900	67.000	0.000	0.400
Portland	43.650	70.260	164.042	0.400
Baltimore	39.300	76.630	0.000	0.400
Baltimore	39.320	76.620	164.042	0.400
Clarksburg	39.220	77.270	0.000	0.400
Hagerstown	39.600	77.750	0.000	0.400
Boston	42.350	71.080	0.000	0.400
Springfield	42.100	72.570	0.000	0.400
Detroit	42.330	83.050	0.000	0.400
Grand Rapids	42.970	85.670	0.000	0.400
Duluth	46.820	92.080	0.000	0.400

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Minneapolis	44.980	93.230	0.000	0.400
Jackson	32.330	90.200	0.000	0.400
Kansas City	39.100	94.580	0.000	0.400
Springfield	37.220	93.280	0.000	0.400
St. Louis	38.580	90.200	0.000	0.400
Havre	48.550	109.720	0.000	0.400
Helena	46.580	112.030	0.000	0.400
Lincoln	40.830	96.670	0.000	0.400
Omaha	41.250	95.930	0.000	0.400
Las Vegas	36.170	115.200	0.000	0.400
Reno	39.500	119.820	0.000	0.400
Manchester	43.000	71.500	0.000	0.400
Newark	40.730	74.170	0.000	0.400
Albuquerque	35.080	106.650	0.000	0.400
Carlsbad	32.430	104.250	0.000	0.400
Santa Fe	35.680	105.950	0.000	0.400
Albany	42.670	73.750	0.000	0.400
Buffalo	42.920	78.830	0.000	0.400
New York	40.780	73.970	0.000	0.400
Syracuse	43.030	76.130	0.000	0.400
Charlotte	35.190	80.880	0.000	0.400
Raleigh	35.770	78.650	0.000	0.400
Wilmington	34.230	77.950	0.000	0.400
Bismarck	46.800	100.780	0.000	0.400
Fargo	46.870	96.800	0.000	0.400
Cincinnati	39.130	84.500	0.000	0.400
Cleveland	41.470	81.620	0.000	0.400
Columbus	40.000	83.020	0.000	0.400
Toledo	41.650	83.550	0.000	0.400
Oklahoma City	35.430	97.470	0.000	0.400
Tulsa	36.150	95.980	0.000	0.400
Baker	44.780	117.830	0.000	0.400
Eugene	44.050	123.080	0.000	0.400
Klamath Falls	42.170	121.730	0.000	0.400
Portland	45.520	122.680	0.000	0.400
Pittsburgh	40.450	79.950	0.000	0.400
Philadelphia	39.950	75.170	0.000	0.400
San Juan	18.500	66.170	0.000	0.400
Providence	41.830	71.400	0.000	0.400
Charleston	32.780	79.930	0.000	0.400
Columbia	34.000	81.030	0.000	0.400
Pierre	44.370	100.350	0.000	0.400
Sioux Falls	43.550	96.730	0.000	0.400
Knoxville	35.950	83.930	0.000	0.400
Memphis	35.150	90.050	0.000	0.400
Nashville	36.170	86.780	0.000	0.400
Amarillo	35.180	101.830	0.000	0.400
Austin	30.270	97.730	0.000	0.400
Dallas	32.770	96.770	0.000	0.400
El Paso	31.770	106.480	0.000	0.400
Fort Worth	32.720	97.320	0.000	0.400
Houston	29.750	95.350	0.000	0.400
San Antonio	29.380	98.550	0.000	0.400
Richfield	38.770	112.080	0.000	0.400
Salt Lake City	40.770	111.900	0.000	0.400
Montpelier	44.250	72.530	0.000	0.400
Fairfax	38.870	77.330	0.000	0.400
Richmond	37.910	122.320	0.000	0.400
Roanoke	37.280	79.950	0.000	0.400
Virginia Beach	36.850	75.970	0.000	0.400
Brewster	48.150	119.690	0.000	0.400
Seattle	47.620	122.330	0.000	0.400
Spokane	47.670	117.430	0.000	0.400
Charleston	38.350	81.630	0.000	0.400
Milwaukee	43.030	87.920	0.000	0.400

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Cheyenne 41.150 104.870 0.000 0.400

Total number of antennas : 121

Begin		End		Sun Outages	Duration	Antenna Name
					in minutes	
2009/09/30	17:12:49.041	2009/09/30	17:16:03.441		3.240	Hilo
2009/09/30	17:12:59.841	2009/09/30	17:15:41.841		2.700	Honolulu
2009/09/30	17:58:59.241	2009/09/30	18:02:08.241		3.150	San Juan
2009/10/01	17:12:35.541	2009/10/01	17:15:28.341		2.880	Honolulu
2009/10/01	17:13:40.341	2009/10/01	17:14:34.341		0.900	Hilo
2009/10/01	17:59:12.741	2009/10/01	18:01:14.241		2.025	San Juan
2009/10/02	17:48:46.340	2009/10/02	17:50:53.240		2.115	Key West
2009/10/03	17:47:57.740	2009/10/03	17:51:04.040		3.105	Key West
2009/10/03	17:48:54.440	2009/10/03	17:52:00.740		3.105	Miami
2009/10/04	17:37:34.040	2009/10/04	17:40:07.940		2.565	San Antonio
2009/10/04	17:38:46.940	2009/10/04	17:39:59.840		1.215	Austin
2009/10/04	17:39:43.640	2009/10/04	17:41:50.540		2.115	Houston
2009/10/04	17:43:06.140	2009/10/04	17:44:51.440		1.755	New Orleans
2009/10/04	17:47:03.740	2009/10/04	17:50:15.440		3.195	Tampa
2009/10/04	17:47:44.240	2009/10/04	17:50:47.840		3.060	Orlando
2009/10/04	17:49:02.540	2009/10/04	17:51:17.540		2.250	Miami
2009/10/05	17:27:31.939	2009/10/05	17:30:08.539		2.610	San Diego
2009/10/05	17:32:45.139	2009/10/05	17:35:40.639		2.925	El Paso
2009/10/05	17:34:19.639	2009/10/05	17:36:45.439		2.430	Carlsbad
2009/10/05	17:37:04.339	2009/10/05	17:40:02.539		2.970	San Antonio
2009/10/05	17:37:28.639	2009/10/05	17:40:43.039		3.240	Austin
2009/10/05	17:38:33.439	2009/10/05	17:40:26.839		1.890	Fort Worth
2009/10/05	17:38:55.039	2009/10/05	17:40:43.039		1.800	Dallas
2009/10/05	17:38:55.039	2009/10/05	17:42:04.039		3.150	Houston
2009/10/05	17:40:29.539	2009/10/05	17:42:36.439		2.115	Shreveport
2009/10/05	17:42:06.739	2009/10/05	17:45:15.739		3.150	New Orleans
2009/10/05	17:42:28.339	2009/10/05	17:44:46.039		2.295	Jackson
2009/10/05	17:47:06.439	2009/10/05	17:50:20.839		3.240	Jacksonville
2009/10/05	17:47:33.439	2009/10/05	17:49:10.639		1.620	Tampa
2009/10/05	17:47:38.839	2009/10/05	17:50:15.439		2.610	Savannah
2009/10/05	17:47:46.939	2009/10/05	17:50:10.039		2.385	Orlando
2009/10/05	17:48:40.939	2009/10/05	17:50:28.939		1.800	Charleston
2009/10/06	17:27:02.239	2009/10/06	17:30:00.439		2.970	San Diego
2009/10/06	17:27:10.339	2009/10/06	17:30:24.739		3.240	Riverside
2009/10/06	17:29:09.139	2009/10/06	17:31:07.939		1.980	Las Vegas
2009/10/06	17:32:34.339	2009/10/06	17:35:16.339		2.700	El Paso
2009/10/06	17:32:55.939	2009/10/06	17:35:35.239		2.655	Albuquerque
2009/10/06	17:33:41.839	2009/10/06	17:36:48.139		3.105	Carlsbad
2009/10/06	17:33:41.839	2009/10/06	17:35:46.039		2.070	Santa Fe
2009/10/06	17:35:37.939	2009/10/06	17:38:06.439		2.475	Amarillo
2009/10/06	17:37:36.739	2009/10/06	17:40:48.439		3.195	Fort Worth
2009/10/06	17:37:55.639	2009/10/06	17:41:07.339		3.195	Dallas
2009/10/06	17:38:14.539	2009/10/06	17:40:21.439		2.115	Oklahoma City
2009/10/06	17:39:40.939	2009/10/06	17:42:49.939		3.150	Shreveport
2009/10/06	17:41:45.139	2009/10/06	17:44:51.439		3.105	Jackson
2009/10/06	17:42:14.839	2009/10/06	17:44:37.939		2.385	Memphis
2009/10/06	17:45:07.639	2009/10/06	17:48:13.939		3.105	Atlanta
2009/10/06	17:46:15.139	2009/10/06	17:47:28.039		1.215	Knoxville
2009/10/06	17:47:01.039	2009/10/06	17:50:07.339		3.105	Columbia
2009/10/06	17:47:11.839	2009/10/06	17:50:10.039		2.970	Savannah
2009/10/06	17:47:22.639	2009/10/06	17:49:48.439		2.430	Charlotte
2009/10/06	17:47:41.539	2009/10/06	17:50:53.239		3.195	Charleston
2009/10/06	17:48:03.139	2009/10/06	17:48:49.039		0.765	Jacksonville
2009/10/06	17:48:46.339	2009/10/06	17:51:47.239		3.015	Wilmington
2009/10/06	17:48:54.439	2009/10/06	17:50:39.739		1.755	Raleigh
2009/10/07	17:25:25.039	2009/10/07	17:28:34.039		3.150	San Francisco

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2009/10/07 17:25:30.439	2009/10/07 17:28:36.739	3.105	Oakland
2009/10/07 17:25:30.439	2009/10/07 17:28:42.139	3.195	San Jose
2009/10/07 17:25:30.439	2009/10/07 17:28:36.739	3.105	Richmond
2009/10/07 17:26:08.239	2009/10/07 17:29:01.039	2.880	Sacramento
2009/10/07 17:27:29.239	2009/10/07 17:29:33.439	2.070	Reno
2009/10/07 17:28:04.339	2009/10/07 17:28:55.639	0.855	Riverside
2009/10/07 17:28:17.839	2009/10/07 17:31:26.839	3.150	Las Vegas
2009/10/07 17:30:40.939	2009/10/07 17:33:01.339	2.340	Richfield
2009/10/07 17:32:31.639	2009/10/07 17:35:27.139	2.925	Albuquerque
2009/10/07 17:32:42.439	2009/10/07 17:34:30.439	1.800	Grand Junction
2009/10/07 17:32:50.539	2009/10/07 17:35:59.539	3.150	Santa Fe
2009/10/07 17:35:02.839	2009/10/07 17:38:06.439	3.060	Amarillo
2009/10/07 17:37:25.939	2009/10/07 17:40:34.939	3.150	Oklahoma City
2009/10/07 17:37:50.239	2009/10/07 17:40:37.639	2.790	Witchita
2009/10/07 17:37:52.939	2009/10/07 17:40:37.639	2.745	Wichita
2009/10/07 17:38:14.539	2009/10/07 17:41:28.939	3.240	Tulsa
2009/10/07 17:39:54.439	2009/10/07 17:42:52.639	2.970	Springfield
2009/10/07 17:40:16.039	2009/10/07 17:41:18.139	1.035	Kansas City
2009/10/07 17:41:37.039	2009/10/07 17:44:40.639	3.060	Memphis
2009/10/07 17:42:06.739	2009/10/07 17:44:02.839	1.935	St. Louis
2009/10/07 17:43:22.339	2009/10/07 17:46:34.039	3.195	Nashville
2009/10/07 17:43:35.839	2009/10/07 17:46:39.439	3.060	Bowling Green
2009/10/07 17:44:19.039	2009/10/07 17:46:39.439	2.340	Louisville
2009/10/07 17:44:56.839	2009/10/07 17:48:11.239	3.240	Knoxville
2009/10/07 17:44:56.839	2009/10/07 17:47:25.339	2.475	Lexington
2009/10/07 17:45:18.439	2009/10/07 17:47:28.039	2.160	Atlanta
2009/10/07 17:46:34.039	2009/10/07 17:48:49.039	2.250	Charleston
2009/10/07 17:46:44.839	2009/10/07 17:49:51.139	3.105	Charlotte
2009/10/07 17:47:06.439	2009/10/07 17:49:29.539	2.385	Columbia
2009/10/07 17:47:09.139	2009/10/07 17:50:10.039	3.015	Roanoke
2009/10/07 17:47:52.339	2009/10/07 17:51:04.039	3.195	Raleigh
2009/10/07 17:48:43.639	2009/10/07 17:51:14.839	2.520	Wilmington
2009/10/07 17:49:02.539	2009/10/07 17:50:47.839	1.755	Fairfax
2009/10/07 17:49:13.339	2009/10/07 17:50:58.639	1.755	Washington
2009/10/07 17:49:16.039	2009/10/07 17:52:25.039	3.150	Virginia Beach
2009/10/07 17:49:21.439	2009/10/07 17:50:28.939	1.125	Clarksburg
2009/10/07 17:49:45.739	2009/10/07 17:50:42.439	0.945	Baltimore
2009/10/07 17:49:48.439	2009/10/07 17:50:39.739	0.855	Baltimore
2009/10/08 17:25:38.539	2009/10/08 17:27:48.139	2.160	San Francisco
2009/10/08 17:25:38.539	2009/10/08 17:27:53.539	2.250	Richmond
2009/10/08 17:25:41.239	2009/10/08 17:27:50.839	2.160	Oakland
2009/10/08 17:25:54.739	2009/10/08 17:28:42.139	2.790	Sacramento
2009/10/08 17:26:02.839	2009/10/08 17:27:34.639	1.530	San Jose
2009/10/08 17:26:37.939	2009/10/08 17:29:49.639	3.195	Reno
2009/10/08 17:26:46.039	2009/10/08 17:29:28.039	2.700	Klamath Falls
2009/10/08 17:30:00.439	2009/10/08 17:33:06.739	3.105	Richfield
2009/10/08 17:30:30.139	2009/10/08 17:33:33.739	3.060	Salt Lake City
2009/10/08 17:31:32.239	2009/10/08 17:32:50.539	1.305	Pocatello
2009/10/08 17:31:43.039	2009/10/08 17:34:54.739	3.195	Grand Junction
2009/10/08 17:33:36.439	2009/10/08 17:36:45.439	3.150	Denver
2009/10/08 17:34:03.439	2009/10/08 17:36:48.139	2.745	Cheyenne
2009/10/08 17:37:31.339	2009/10/08 17:40:24.139	2.880	Wichita
2009/10/08 17:37:31.339	2009/10/08 17:40:24.139	2.880	Witchita
2009/10/08 17:38:06.439	2009/10/08 17:40:53.839	2.790	Lincoln
2009/10/08 17:38:38.839	2009/10/08 17:41:10.039	2.520	Omaha
2009/10/08 17:38:52.339	2009/10/08 17:42:06.739	3.240	Kansas City
2009/10/08 17:38:52.339	2009/10/08 17:42:04.039	3.195	Kansas City
2009/10/08 17:38:57.739	2009/10/08 17:40:13.339	1.260	Tulsa
2009/10/08 17:39:35.539	2009/10/08 17:39:54.439	0.315	Sioux City
2009/10/08 17:39:49.039	2009/10/08 17:42:25.639	2.610	Springfield
2009/10/08 17:39:59.839	2009/10/08 17:42:12.139	2.205	Des Moines
2009/10/08 17:41:12.739	2009/10/08 17:44:24.439	3.195	St. Louis
2009/10/08 17:41:31.639	2009/10/08 17:44:40.639	3.150	Springfield
2009/10/08 17:42:20.239	2009/10/08 17:42:52.639	0.540	Dubuque
2009/10/08 17:43:11.539	2009/10/08 17:45:04.939	1.890	Chicago

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2009/10/08 17:43:22.339	2009/10/08 17:46:31.339	3.150	Indianapolis
2009/10/08 17:43:38.539	2009/10/08 17:46:44.839	3.105	Louisville
2009/10/08 17:43:38.539	2009/10/08 17:46:04.339	2.430	Bowling Green
2009/10/08 17:43:46.639	2009/10/08 17:45:56.239	2.160	South Bend
2009/10/08 17:44:00.139	2009/10/08 17:45:23.839	1.395	Nashville
2009/10/08 17:44:13.639	2009/10/08 17:47:28.039	3.240	Cincinnati
2009/10/08 17:44:21.739	2009/10/08 17:47:25.339	3.060	Lexington
2009/10/08 17:45:02.239	2009/10/08 17:48:08.539	3.105	Columbus
2009/10/08 17:45:07.639	2009/10/08 17:47:19.939	2.205	Toledo
2009/10/08 17:45:48.139	2009/10/08 17:47:03.739	1.260	Detroit
2009/10/08 17:45:50.839	2009/10/08 17:48:57.139	3.105	Charleston
2009/10/08 17:46:01.639	2009/10/08 17:48:24.739	2.385	Cleveland
2009/10/08 17:46:39.439	2009/10/08 17:49:37.639	2.970	Pittsburgh
2009/10/08 17:47:03.739	2009/10/08 17:49:40.339	2.610	Roanoke
2009/10/08 17:47:44.239	2009/10/08 17:50:55.939	3.195	Hagerstown
2009/10/08 17:48:00.439	2009/10/08 17:51:14.839	3.240	Clarksburg
2009/10/08 17:48:03.139	2009/10/08 17:51:14.839	3.195	Fairfax
2009/10/08 17:48:11.239	2009/10/08 17:51:22.939	3.195	Washington
2009/10/08 17:48:19.339	2009/10/08 17:51:33.739	3.240	Baltimore
2009/10/08 17:48:22.039	2009/10/08 17:51:33.739	3.195	Baltimore
2009/10/08 17:48:49.039	2009/10/08 17:52:00.739	3.195	Wilmington
2009/10/08 17:49:02.539	2009/10/08 17:52:11.539	3.150	Philadelphia
2009/10/08 17:49:29.539	2009/10/08 17:51:36.439	2.115	Virginia Beach
2009/10/08 17:49:32.239	2009/10/08 17:52:30.439	2.970	Newark
2009/10/08 17:49:40.339	2009/10/08 17:52:35.839	2.925	New York
2009/10/08 17:50:12.739	2009/10/08 17:52:54.739	2.700	New Haven
2009/10/08 17:50:26.239	2009/10/08 17:51:31.039	1.080	Albany
2009/10/08 17:50:26.239	2009/10/08 17:52:46.639	2.340	Hartford
2009/10/08 17:50:37.039	2009/10/08 17:52:38.539	2.025	Springfield
2009/10/08 17:51:01.339	2009/10/08 17:53:24.439	2.385	Providence
2009/10/08 17:51:22.939	2009/10/08 17:53:10.939	1.800	Boston
2009/10/09 17:26:13.638	2009/10/09 17:29:28.038	3.240	Eugene
2009/10/09 17:26:21.738	2009/10/09 17:29:19.938	2.970	Klamath Falls
2009/10/09 17:26:59.538	2009/10/09 17:29:49.638	2.835	Portland
2009/10/09 17:28:36.738	2009/10/09 17:31:34.938	2.970	Baker
2009/10/09 17:28:52.938	2009/10/09 17:32:04.638	3.195	Boise
2009/10/09 17:29:52.338	2009/10/09 17:31:45.738	1.890	Lewiston
2009/10/09 17:30:19.338	2009/10/09 17:33:31.038	3.195	Pocatello
2009/10/09 17:30:30.138	2009/10/09 17:33:01.338	2.520	Salt Lake City
2009/10/09 17:30:38.238	2009/10/09 17:33:49.938	3.195	Idaho Falls
2009/10/09 17:32:18.138	2009/10/09 17:33:25.638	1.125	Helena
2009/10/09 17:33:41.838	2009/10/09 17:36:37.338	2.925	Cheyenne
2009/10/09 17:33:58.038	2009/10/09 17:35:51.438	1.890	Denver
2009/10/09 17:36:18.438	2009/10/09 17:39:08.538	2.835	Pierre
2009/10/09 17:37:47.538	2009/10/09 17:40:40.338	2.880	Lincoln
2009/10/09 17:37:50.238	2009/10/09 17:40:56.538	3.105	Sioux Falls
2009/10/09 17:37:52.938	2009/10/09 17:41:04.638	3.195	Sioux City
2009/10/09 17:38:06.438	2009/10/09 17:41:10.038	3.060	Omaha
2009/10/09 17:39:13.938	2009/10/09 17:42:22.938	3.150	Des Moines
2009/10/09 17:39:40.938	2009/10/09 17:40:40.338	0.990	Kansas City
2009/10/09 17:39:43.638	2009/10/09 17:40:40.338	0.945	Kansas City
2009/10/09 17:39:59.838	2009/10/09 17:42:20.238	2.340	Minneapolis
2009/10/09 17:40:21.438	2009/10/09 17:43:33.138	3.195	Cedar Rapids
2009/10/09 17:40:43.038	2009/10/09 17:43:57.438	3.240	Dubuque
2009/10/09 17:41:45.138	2009/10/09 17:43:57.438	2.205	Springfield
2009/10/09 17:42:09.438	2009/10/09 17:45:18.438	3.150	Milwaukee
2009/10/09 17:42:17.538	2009/10/09 17:45:26.538	3.150	Chicago
2009/10/09 17:43:00.738	2009/10/09 17:46:09.738	3.150	South Bend
2009/10/09 17:43:14.238	2009/10/09 17:46:25.938	3.195	Grand Rapids
2009/10/09 17:43:35.838	2009/10/09 17:45:45.438	2.160	Indianapolis
2009/10/09 17:44:24.438	2009/10/09 17:47:30.738	3.105	Toledo
2009/10/09 17:44:35.238	2009/10/09 17:47:46.938	3.195	Detroit
2009/10/09 17:45:02.238	2009/10/09 17:46:04.338	1.035	Cincinnati
2009/10/09 17:45:10.338	2009/10/09 17:47:28.038	2.295	Columbus
2009/10/09 17:45:23.838	2009/10/09 17:48:30.138	3.105	Cleveland

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2009/10/09 17:46:34.038	2009/10/09 17:49:10.638	2.610	Pittsburgh
2009/10/09 17:46:36.738	2009/10/09 17:49:48.438	3.195	Buffalo
2009/10/09 17:47:55.038	2009/10/09 17:51:06.738	3.195	Syracuse
2009/10/09 17:48:13.938	2009/10/09 17:49:56.538	1.710	Hagerstown
2009/10/09 17:49:05.238	2009/10/09 17:52:19.638	3.240	Albany
2009/10/09 17:49:07.938	2009/10/09 17:50:15.438	1.125	Baltimore
2009/10/09 17:49:07.938	2009/10/09 17:50:12.738	1.080	Baltimore
2009/10/09 17:49:10.638	2009/10/09 17:51:06.738	1.935	Wilmington
2009/10/09 17:49:18.738	2009/10/09 17:51:22.938	2.070	Philadelphia
2009/10/09 17:49:24.138	2009/10/09 17:52:06.138	2.700	Newark
2009/10/09 17:49:29.538	2009/10/09 17:52:11.538	2.700	New York
2009/10/09 17:49:34.938	2009/10/09 17:52:30.438	2.925	Montpelier
2009/10/09 17:49:45.738	2009/10/09 17:52:54.738	3.150	Springfield
2009/10/09 17:49:45.738	2009/10/09 17:52:52.038	3.105	Hartford
2009/10/09 17:49:48.438	2009/10/09 17:52:46.638	2.970	New Haven
2009/10/09 17:50:07.338	2009/10/09 17:53:19.038	3.195	Manchester
2009/10/09 17:50:23.538	2009/10/09 17:53:29.838	3.105	Providence
2009/10/09 17:50:26.238	2009/10/09 17:53:35.238	3.150	Boston
2009/10/09 17:50:26.238	2009/10/09 17:53:13.638	2.790	Andover
2009/10/09 17:50:37.038	2009/10/09 17:53:46.038	3.150	Portland
2009/10/09 17:51:14.838	2009/10/09 17:54:02.238	2.790	Bangor
2009/10/09 17:52:00.738	2009/10/09 17:54:48.138	2.790	Eastport
2009/10/10 17:26:43.338	2009/10/10 17:29:33.438	2.835	Portland
2009/10/10 17:26:46.038	2009/10/10 17:28:23.238	1.620	Eugene
2009/10/10 17:27:15.738	2009/10/10 17:30:30.138	3.240	Seattle
2009/10/10 17:28:25.938	2009/10/10 17:31:32.238	3.105	Brewster
2009/10/10 17:28:28.638	2009/10/10 17:31:07.938	2.655	Baker
2009/10/10 17:28:55.638	2009/10/10 17:32:07.338	3.195	Lewiston
2009/10/10 17:29:06.438	2009/10/10 17:32:18.138	3.195	Spokane
2009/10/10 17:29:19.938	2009/10/10 17:31:05.238	1.755	Boise
2009/10/10 17:30:59.838	2009/10/10 17:34:11.538	3.195	Helena
2009/10/10 17:31:02.538	2009/10/10 17:32:55.938	1.890	Idaho Falls
2009/10/10 17:32:34.338	2009/10/10 17:35:21.738	2.790	Havre
2009/10/10 17:35:56.838	2009/10/10 17:39:05.838	3.150	Bismarck
2009/10/10 17:36:02.238	2009/10/10 17:38:55.038	2.880	Pierre
2009/10/10 17:37:44.838	2009/10/10 17:40:53.838	3.150	Fargo
2009/10/10 17:37:52.938	2009/10/10 17:40:21.438	2.475	Sioux Falls
2009/10/10 17:38:30.738	2009/10/10 17:39:54.438	1.395	Sioux City
2009/10/10 17:39:19.338	2009/10/10 17:42:25.638	3.105	Minneapolis
2009/10/10 17:39:54.438	2009/10/10 17:43:03.438	3.150	Duluth
2009/10/10 17:40:59.238	2009/10/10 17:42:22.938	1.395	Cedar Rapids
2009/10/10 17:41:23.538	2009/10/10 17:42:44.538	1.350	Dubuque
2009/10/10 17:42:25.638	2009/10/10 17:44:29.838	2.070	Milwaukee
2009/10/10 17:43:35.838	2009/10/10 17:45:34.638	1.980	Grand Rapids
2009/10/10 17:45:31.938	2009/10/10 17:46:15.138	0.720	Detroit
2009/10/10 17:47:03.738	2009/10/10 17:48:49.038	1.755	Buffalo
2009/10/10 17:48:22.038	2009/10/10 17:50:10.038	1.800	Syracuse
2009/10/10 17:49:24.138	2009/10/10 17:52:08.838	2.745	Montpelier
2009/10/10 17:50:07.338	2009/10/10 17:53:00.138	2.880	Andover
2009/10/10 17:50:39.738	2009/10/10 17:53:54.138	3.240	Caribou
2009/10/10 17:50:42.438	2009/10/10 17:52:11.538	1.485	Manchester
2009/10/10 17:50:47.838	2009/10/10 17:53:02.838	2.250	Portland
2009/10/10 17:50:55.938	2009/10/10 17:53:48.738	2.880	Bangor
2009/10/10 17:51:41.838	2009/10/10 17:54:34.638	2.880	Eastport
2009/10/11 17:27:50.838	2009/10/11 17:29:25.338	1.575	Seattle
2009/10/11 17:28:34.038	2009/10/11 17:30:54.438	2.340	Brewster
2009/10/11 17:29:25.338	2009/10/11 17:31:29.538	2.070	Spokane
2009/10/11 17:31:51.138	2009/10/11 17:32:50.538	0.990	Helena
2009/10/11 17:32:15.438	2009/10/11 17:35:08.238	2.880	Havre
2009/10/11 17:36:13.038	2009/10/11 17:38:17.238	2.070	Bismarck
2009/10/11 17:37:58.338	2009/10/11 17:40:10.638	2.205	Fargo
2009/10/11 17:40:07.938	2009/10/11 17:42:20.238	2.205	Duluth
2009/10/11 17:51:12.138	2009/10/11 17:52:49.338	1.620	Caribou

G-28 Ku-band Sun outage Fall 2009

Spacecraft : G-28
 Antenna Name : Oakland

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
37.800	122.270	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:25:30.439	2009/10/07 17:28:36.739	3.105
2009/10/08 17:25:41.239	2009/10/08 17:27:50.839	2.160

Spacecraft : G-28
 Antenna Name : Riverside

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
33.800	117.090	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:27:10.339	2009/10/06 17:30:24.739	3.240
2009/10/07 17:28:04.339	2009/10/07 17:28:55.639	0.855

Spacecraft : G-28
 Antenna Name : Sacramento

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
38.580	121.500	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:26:08.239	2009/10/07 17:29:01.039	2.880
2009/10/08 17:25:54.739	2009/10/08 17:28:42.139	2.790

Spacecraft : G-28
 Antenna Name : San Diego

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
32.700	117.170	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/05 17:27:31.939	2009/10/05 17:30:08.539	2.610
2009/10/06 17:27:02.239	2009/10/06 17:30:00.439	2.970

Spacecraft : G-28

G-28 Ku-band Sun outage Fall 2009

Antenna Name : San Francisco

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 37.800 122.400 164.042 0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:25:25.039	2009/10/07 17:28:34.039	3.150
2009/10/08 17:25:38.539	2009/10/08 17:27:48.139	2.160

Spacecraft : G-28
 Antenna Name : San Jose

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 37.330 121.880 0.000 0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:25:30.439	2009/10/07 17:28:42.139	3.195
2009/10/08 17:26:02.839	2009/10/08 17:27:34.639	1.530

Spacecraft : G-28
 Antenna Name : Denver

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 39.800 105.000 17060.368 0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:33:36.439	2009/10/08 17:36:45.439	3.150
2009/10/09 17:33:58.038	2009/10/09 17:35:51.438	1.890

Spacecraft : G-28
 Antenna Name : Grand Junction

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 39.080 108.550 0.000 0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:32:42.439	2009/10/07 17:34:30.439	1.800
2009/10/08 17:31:43.039	2009/10/08 17:34:54.739	3.195

Spacecraft : G-28
 Antenna Name : Hartford

G-28 Ku-band Sun outage Fall 2009

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 41.800 72.700 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/08	17:50:26.239	2009/10/08 17:52:46.639	2.340
2009/10/09	17:49:45.738	2009/10/09 17:52:52.038	3.105

Spacecraft : G-28
 Antenna Name : New Haven

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 41.320 72.920 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/08	17:50:12.739	2009/10/08 17:52:54.739	2.700
2009/10/09	17:49:48.438	2009/10/09 17:52:46.638	2.970

Spacecraft : G-28
 Antenna Name : Washington

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 38.880 77.000 328.084 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/07	17:49:13.339	2009/10/07 17:50:58.639	1.755
2009/10/08	17:48:11.239	2009/10/08 17:51:22.939	3.195

Spacecraft : G-28
 Antenna Name : Wilmington

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 39.800 75.600 328.084 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/08	17:48:49.039	2009/10/08 17:52:00.739	3.195
2009/10/09	17:49:10.638	2009/10/09 17:51:06.738	1.935

Spacecraft : G-28
 Antenna Name : Jacksonville

G-28 Ku-band Sun outage Fall 2009

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 30.330 81.650 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/05	17:47:06.439	2009/10/05 17:50:20.839	3.240
2009/10/06	17:48:03.139	2009/10/06 17:48:49.039	0.765

Spacecraft : G-28
 Antenna Name : Key West

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 24.550 81.800 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/02	17:48:46.340	2009/10/02 17:50:53.240	2.115
2009/10/03	17:47:57.740	2009/10/03 17:51:04.040	3.105

Spacecraft : G-28
 Antenna Name : Miami

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 25.780 80.180 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/03	17:48:54.440	2009/10/03 17:52:00.740	3.105
2009/10/04	17:49:02.540	2009/10/04 17:51:17.540	2.250

Spacecraft : G-28
 Antenna Name : Orlando

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 28.530 81.380 328.084 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/04	17:47:44.240	2009/10/04 17:50:47.840	3.060
2009/10/05	17:47:46.939	2009/10/05 17:50:10.039	2.385

Spacecraft : G-28
 Antenna Name : Tampa

Geod Lat Longitude Altitude Beamwidth

G-28 Ku-band Sun outage Fall 2009

(deg) (deg W) (feet) (deg)
 27.950 82.450 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/04 17:47:03.740	2009/10/04 17:50:15.440	3.195
2009/10/05 17:47:33.439	2009/10/05 17:49:10.639	1.620

Spacecraft : G-28
 Antenna Name : Atlanta

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 33.760 84.380 3280.840 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:45:07.639	2009/10/06 17:48:13.939	3.105
2009/10/07 17:45:18.439	2009/10/07 17:47:28.039	2.160

Spacecraft : G-28
 Antenna Name : Savannah

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 32.060 81.080 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/05 17:47:38.839	2009/10/05 17:50:15.439	2.610
2009/10/06 17:47:11.839	2009/10/06 17:50:10.039	2.970

Spacecraft : G-28
 Antenna Name : Hilo

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 19.730 155.080 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/09/30 17:12:49.041	2009/09/30 17:16:03.441	3.240
2009/10/01 17:13:40.341	2009/10/01 17:14:34.341	0.900

Spacecraft : G-28
 Antenna Name : Honolulu

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)

G-28 Ku-band Sun outage Fall 2009

21.320 157.860 164.042 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/09/30 17:12:59.841	2009/09/30 17:15:41.841	2.700
2009/10/01 17:12:35.541	2009/10/01 17:15:28.341	2.880

Spacecraft : G-28
 Antenna Name : Boise

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 43.620 116.200 8858.268 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:28:52.938	2009/10/09 17:32:04.638	3.195
2009/10/10 17:29:19.938	2009/10/10 17:31:05.238	1.755

Spacecraft : G-28
 Antenna Name : Idaho Falls

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 43.500 112.020 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:30:38.238	2009/10/09 17:33:49.938	3.195
2009/10/10 17:31:02.538	2009/10/10 17:32:55.938	1.890

Spacecraft : G-28
 Antenna Name : Lewiston

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 46.400 117.030 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:29:52.338	2009/10/09 17:31:45.738	1.890
2009/10/10 17:28:55.638	2009/10/10 17:32:07.338	3.195

Spacecraft : G-28
 Antenna Name : Pocatello

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 42.850 112.450 14435.696 0.400

G-28 Ku-band Sun outage Fall 2009

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:31:32.239	2009/10/08 17:32:50.539	1.305
2009/10/09 17:30:19.338	2009/10/09 17:33:31.038	3.195

Spacecraft : G-28
 Antenna Name : Chicago

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
41.860	87.650	1968.504	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:43:11.539	2009/10/08 17:45:04.939	1.890
2009/10/09 17:42:17.538	2009/10/09 17:45:26.538	3.150

Spacecraft : G-28
 Antenna Name : Springfield

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.820	89.650	1968.504	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:41:31.639	2009/10/08 17:44:40.639	3.150
2009/10/09 17:41:45.138	2009/10/09 17:43:57.438	2.205

Spacecraft : G-28
 Antenna Name : Indianapolis

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.760	86.160	2296.588	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:43:22.339	2009/10/08 17:46:31.339	3.150
2009/10/09 17:43:35.838	2009/10/09 17:45:45.438	2.160

Spacecraft : G-28
 Antenna Name : South Bend

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
41.680	86.250	2296.588	0.400

G-28 Ku-band Sun outage Fall 2009

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:43:46.639	2009/10/08 17:45:56.239	2.160
2009/10/09 17:43:00.738	2009/10/09 17:46:09.738	3.150

Spacecraft : G-28
 Antenna Name : Cedar Rapids

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.530	91.450	2395.013	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:40:21.438	2009/10/09 17:43:33.138	3.195
2009/10/10 17:40:59.238	2009/10/10 17:42:22.938	1.395

Spacecraft : G-28
 Antenna Name : Des Moines

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
41.600	93.630	2624.672	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:39:59.839	2009/10/08 17:42:12.139	2.205
2009/10/09 17:39:13.938	2009/10/09 17:42:22.938	3.150

Spacecraft : G-28
 Antenna Name : Dubuque

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.520	90.670	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:42:20.239	2009/10/08 17:42:52.639	0.540
2009/10/09 17:40:43.038	2009/10/09 17:43:57.438	3.240
2009/10/10 17:41:23.538	2009/10/10 17:42:44.538	1.350

Spacecraft : G-28
 Antenna Name : Sioux City

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.600	96.400	3608.924	0.400

G-28 Ku-band Sun outage Fall 2009

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:39:35.539	2009/10/08 17:39:54.439	0.315
2009/10/09 17:37:52.938	2009/10/09 17:41:04.638	3.195
2009/10/10 17:38:30.738	2009/10/10 17:39:54.438	1.395

Spacecraft : G-28
 Antenna Name : Kansas City

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 39.110 94.630 2296.588 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:38:52.339	2009/10/08 17:42:04.039	3.195
2009/10/09 17:39:40.938	2009/10/09 17:40:40.338	0.990

Spacecraft : G-28
 Antenna Name : Wichita

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 37.720 97.280 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:37:52.939	2009/10/07 17:40:37.639	2.745
2009/10/08 17:37:31.339	2009/10/08 17:40:24.139	2.880

Spacecraft : G-28
 Antenna Name : Bowling Green

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 37.000 86.450 1640.420 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:43:35.839	2009/10/07 17:46:39.439	3.060
2009/10/08 17:43:38.539	2009/10/08 17:46:04.339	2.430

Spacecraft : G-28
 Antenna Name : Lexington

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 38.050 84.500 2952.756 0.400

G-28 Ku-band Sun outage Fall 2009

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:44:56.839	2009/10/07 17:47:25.339	2.475
2009/10/08 17:44:21.739	2009/10/08 17:47:25.339	3.060

Spacecraft : G-28
 Antenna Name : Louisville

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
38.250	85.770	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:44:19.039	2009/10/07 17:46:39.439	2.340
2009/10/08 17:43:38.539	2009/10/08 17:46:44.839	3.105

Spacecraft : G-28
 Antenna Name : Witchita

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
37.700	97.330	4265.092	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:37:50.239	2009/10/07 17:40:37.639	2.790
2009/10/08 17:37:31.339	2009/10/08 17:40:24.139	2.880

Spacecraft : G-28
 Antenna Name : New Orleans

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
29.950	90.060	164.042	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/04 17:43:06.140	2009/10/04 17:44:51.440	1.755
2009/10/05 17:42:06.739	2009/10/05 17:45:15.739	3.150

Spacecraft : G-28
 Antenna Name : Shreveport

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
32.520	93.750	656.168	0.400

Start Time : 2009/08/31 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/05 17:40:29.539	2009/10/05 17:42:36.439	2.115
2009/10/06 17:39:40.939	2009/10/06 17:42:49.939	3.150

Spacecraft : G-28
Antenna Name : Andover

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
44.630	70.700	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:50:26.238	2009/10/09 17:53:13.638	2.790
2009/10/10 17:50:07.338	2009/10/10 17:53:00.138	2.880

Spacecraft : G-28
Antenna Name : Bangor

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
44.800	68.780	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:51:14.838	2009/10/09 17:54:02.238	2.790
2009/10/10 17:50:55.938	2009/10/10 17:53:48.738	2.880

Spacecraft : G-28
Antenna Name : Caribou

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
46.860	68.100	1443.570	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:50:39.738	2009/10/10 17:53:54.138	3.240
2009/10/11 17:51:12.138	2009/10/11 17:52:49.338	1.620

Spacecraft : G-28
Antenna Name : Eastport

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
44.900	67.000	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/09 17:52:00.738	2009/10/09 17:54:48.138	2.790
2009/10/10 17:51:41.838	2009/10/10 17:54:34.638	2.880

Spacecraft : G-28
Antenna Name : Portland

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
43.650	70.260	164.042	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:50:37.038	2009/10/09 17:53:46.038	3.150
2009/10/10 17:50:47.838	2009/10/10 17:53:02.838	2.250

Spacecraft : G-28
Antenna Name : Baltimore

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.300	76.630	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:49:45.739	2009/10/07 17:50:42.439	0.945
2009/10/08 17:48:19.339	2009/10/08 17:51:33.739	3.240
2009/10/09 17:49:07.938	2009/10/09 17:50:12.738	1.080

Spacecraft : G-28
Antenna Name : Baltimore

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.320	76.620	164.042	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:49:48.439	2009/10/07 17:50:39.739	0.855
2009/10/08 17:48:22.039	2009/10/08 17:51:33.739	3.195
2009/10/09 17:49:07.938	2009/10/09 17:50:15.438	1.125

Spacecraft : G-28
Antenna Name : Clarksburg

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.220	77.270	0.000	0.400

Start Time : 2009/08/31 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:49:21.439	2009/10/07 17:50:28.939	1.125
2009/10/08 17:48:00.439	2009/10/08 17:51:14.839	3.240

Spacecraft : G-28
Antenna Name : Hagerstown

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.600	77.750	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:47:44.239	2009/10/08 17:50:55.939	3.195
2009/10/09 17:48:13.938	2009/10/09 17:49:56.538	1.710

Spacecraft : G-28
Antenna Name : Boston

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.350	71.080	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:51:22.939	2009/10/08 17:53:10.939	1.800
2009/10/09 17:50:26.238	2009/10/09 17:53:35.238	3.150

Spacecraft : G-28
Antenna Name : Springfield

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.100	72.570	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:50:37.039	2009/10/08 17:52:38.539	2.025
2009/10/09 17:49:45.738	2009/10/09 17:52:54.738	3.150

Spacecraft : G-28
Antenna Name : Detroit

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.330	83.050	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/08 17:45:48.139	2009/10/08 17:47:03.739	1.260
2009/10/09 17:44:35.238	2009/10/09 17:47:46.938	3.195
2009/10/10 17:45:31.938	2009/10/10 17:46:15.138	0.720

Spacecraft : G-28
Antenna Name : Grand Rapids

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.970	85.670	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:43:14.238	2009/10/09 17:46:25.938	3.195
2009/10/10 17:43:35.838	2009/10/10 17:45:34.638	1.980

Spacecraft : G-28
Antenna Name : Duluth

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
46.820	92.080	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:39:54.438	2009/10/10 17:43:03.438	3.150
2009/10/11 17:40:07.938	2009/10/11 17:42:20.238	2.205

Spacecraft : G-28
Antenna Name : Minneapolis

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
44.980	93.230	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:39:59.838	2009/10/09 17:42:20.238	2.340
2009/10/10 17:39:19.338	2009/10/10 17:42:25.638	3.105

Spacecraft : G-28
Antenna Name : Jackson

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
32.330	90.200	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/05 17:42:28.339	2009/10/05 17:44:46.039	2.295
2009/10/06 17:41:45.139	2009/10/06 17:44:51.439	3.105

Spacecraft : G-28
Antenna Name : Kansas City

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.100	94.580	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:40:16.039	2009/10/07 17:41:18.139	1.035
2009/10/08 17:38:52.339	2009/10/08 17:42:06.739	3.240
2009/10/09 17:39:43.638	2009/10/09 17:40:40.338	0.945

Spacecraft : G-28
Antenna Name : Springfield

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
37.220	93.280	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:39:54.439	2009/10/07 17:42:52.639	2.970
2009/10/08 17:39:49.039	2009/10/08 17:42:25.639	2.610

Spacecraft : G-28
Antenna Name : St. Louis

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
38.580	90.200	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:42:06.739	2009/10/07 17:44:02.839	1.935
2009/10/08 17:41:12.739	2009/10/08 17:44:24.439	3.195

Spacecraft : G-28
Antenna Name : Havre

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
48.550	109.720	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/10 17:32:34.338	2009/10/10 17:35:21.738	2.790
2009/10/11 17:32:15.438	2009/10/11 17:35:08.238	2.880

Spacecraft : G-28
Antenna Name : Helena

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
46.580	112.030	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:32:18.138	2009/10/09 17:33:25.638	1.125
2009/10/10 17:30:59.838	2009/10/10 17:34:11.538	3.195
2009/10/11 17:31:51.138	2009/10/11 17:32:50.538	0.990

Spacecraft : G-28
Antenna Name : Lincoln

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
40.830	96.670	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:38:06.439	2009/10/08 17:40:53.839	2.790
2009/10/09 17:37:47.538	2009/10/09 17:40:40.338	2.880

Spacecraft : G-28
Antenna Name : Omaha

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
41.250	95.930	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:38:38.839	2009/10/08 17:41:10.039	2.520
2009/10/09 17:38:06.438	2009/10/09 17:41:10.038	3.060

Spacecraft : G-28
Antenna Name : Las Vegas

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
36.170	115.200	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/06 17:29:09.139	2009/10/06 17:31:07.939	1.980
2009/10/07 17:28:17.839	2009/10/07 17:31:26.839	3.150

Spacecraft : G-28
Antenna Name : Reno

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.500	119.820	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:27:29.239	2009/10/07 17:29:33.439	2.070
2009/10/08 17:26:37.939	2009/10/08 17:29:49.639	3.195

Spacecraft : G-28
Antenna Name : Manchester

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
43.000	71.500	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:50:07.338	2009/10/09 17:53:19.038	3.195
2009/10/10 17:50:42.438	2009/10/10 17:52:11.538	1.485

Spacecraft : G-28
Antenna Name : Newark

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
40.730	74.170	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:49:32.239	2009/10/08 17:52:30.439	2.970
2009/10/09 17:49:24.138	2009/10/09 17:52:06.138	2.700

Spacecraft : G-28
Antenna Name : Albuquerque

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
35.080	106.650	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

G-28 Ku-band Sun outage Fall 2009

Begin	End	Duration in minutes
2009/10/06 17:32:55.939	2009/10/06 17:35:35.239	2.655
2009/10/07 17:32:31.639	2009/10/07 17:35:27.139	2.925

Spacecraft : G-28
Antenna Name : Carlsbad

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
32.430	104.250	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/05 17:34:19.639	2009/10/05 17:36:45.439	2.430
2009/10/06 17:33:41.839	2009/10/06 17:36:48.139	3.105

Spacecraft : G-28
Antenna Name : Santa Fe

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
35.680	105.950	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:33:41.839	2009/10/06 17:35:46.039	2.070
2009/10/07 17:32:50.539	2009/10/07 17:35:59.539	3.150

Spacecraft : G-28
Antenna Name : Albany

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.670	73.750	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:50:26.239	2009/10/08 17:51:31.039	1.080
2009/10/09 17:49:05.238	2009/10/09 17:52:19.638	3.240

Spacecraft : G-28
Antenna Name : Buffalo

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
42.920	78.830	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration
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G-28 Ku-band Sun outage Fall 2009
in minutes

2009/10/09 17:46:36.738	2009/10/09 17:49:48.438	3.195
2009/10/10 17:47:03.738	2009/10/10 17:48:49.038	1.755

Spacecraft : G-28
Antenna Name : New York

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
40.780	73.970	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:49:40.339	2009/10/08 17:52:35.839	2.925
2009/10/09 17:49:29.538	2009/10/09 17:52:11.538	2.700

Spacecraft : G-28
Antenna Name : Syracuse

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
43.030	76.130	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:47:55.038	2009/10/09 17:51:06.738	3.195
2009/10/10 17:48:22.038	2009/10/10 17:50:10.038	1.800

Spacecraft : G-28
Antenna Name : Charlotte

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
35.190	80.880	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:47:22.639	2009/10/06 17:49:48.439	2.430
2009/10/07 17:46:44.839	2009/10/07 17:49:51.139	3.105

Spacecraft : G-28
Antenna Name : Raleigh

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
35.770	78.650	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
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G-28 Ku-band Sun outage Fall 2009

2009/10/06 17:48:54.439 2009/10/06 17:50:39.739 1.755
 2009/10/07 17:47:52.339 2009/10/07 17:51:04.039 3.195

Spacecraft : G-28
 Antenna Name : Wilmington

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 34.230 77.950 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:48:46.339	2009/10/06 17:51:47.239	3.015
2009/10/07 17:48:43.639	2009/10/07 17:51:14.839	2.520

Spacecraft : G-28
 Antenna Name : Bismarck

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 46.800 100.780 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:35:56.838	2009/10/10 17:39:05.838	3.150
2009/10/11 17:36:13.038	2009/10/11 17:38:17.238	2.070

Spacecraft : G-28
 Antenna Name : Fargo

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 46.870 96.800 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:37:44.838	2009/10/10 17:40:53.838	3.150
2009/10/11 17:37:58.338	2009/10/11 17:40:10.638	2.205

Spacecraft : G-28
 Antenna Name : Cincinnati

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 39.130 84.500 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:44:13.639	2009/10/08 17:47:28.039	3.240

G-28 Ku-band Sun outage Fall 2009

2009/10/09 17:45:02.238 2009/10/09 17:46:04.338 1.035

Spacecraft : G-28
 Antenna Name : Cleveland

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 41.470 81.620 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:46:01.639	2009/10/08 17:48:24.739	2.385
2009/10/09 17:45:23.838	2009/10/09 17:48:30.138	3.105

Spacecraft : G-28
 Antenna Name : Columbus

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 40.000 83.020 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:45:02.239	2009/10/08 17:48:08.539	3.105
2009/10/09 17:45:10.338	2009/10/09 17:47:28.038	2.295

Spacecraft : G-28
 Antenna Name : Toledo

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 41.650 83.550 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:45:07.639	2009/10/08 17:47:19.939	2.205
2009/10/09 17:44:24.438	2009/10/09 17:47:30.738	3.105

Spacecraft : G-28
 Antenna Name : Oklahoma City

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 35.430 97.470 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:38:14.539	2009/10/06 17:40:21.439	2.115
2009/10/07 17:37:25.939	2009/10/07 17:40:34.939	3.150

G-28 Ku-band Sun outage Fall 2009

Spacecraft : G-28
 Antenna Name : Tulsa

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
36.150	95.980	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:38:14.539	2009/10/07 17:41:28.939	3.240
2009/10/08 17:38:57.739	2009/10/08 17:40:13.339	1.260

Spacecraft : G-28
 Antenna Name : Baker

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
44.780	117.830	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:28:36.738	2009/10/09 17:31:34.938	2.970
2009/10/10 17:28:28.638	2009/10/10 17:31:07.938	2.655

Spacecraft : G-28
 Antenna Name : Eugene

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
44.050	123.080	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:26:13.638	2009/10/09 17:29:28.038	3.240
2009/10/10 17:26:46.038	2009/10/10 17:28:23.238	1.620

Spacecraft : G-28
 Antenna Name : Klamath Falls

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
42.170	121.730	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:26:46.039	2009/10/08 17:29:28.039	2.700
2009/10/09 17:26:21.738	2009/10/09 17:29:19.938	2.970

G-28 Ku-band Sun outage Fall 2009

Spacecraft : G-28
 Antenna Name : Portland

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
45.520	122.680	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:26:59.538	2009/10/09 17:29:49.638	2.835
2009/10/10 17:26:43.338	2009/10/10 17:29:33.438	2.835

Spacecraft : G-28
 Antenna Name : Pittsburgh

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
40.450	79.950	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:46:39.439	2009/10/08 17:49:37.639	2.970
2009/10/09 17:46:34.038	2009/10/09 17:49:10.638	2.610

Spacecraft : G-28
 Antenna Name : Philadelphia

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
39.950	75.170	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:49:02.539	2009/10/08 17:52:11.539	3.150
2009/10/09 17:49:18.738	2009/10/09 17:51:22.938	2.070

Spacecraft : G-28
 Antenna Name : San Juan

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
18.500	66.170	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/09/30 17:58:59.241	2009/09/30 18:02:08.241	3.150
2009/10/01 17:59:12.741	2009/10/01 18:01:14.241	2.025

G-28 Ku-band Sun outage Fall 2009

Spacecraft : G-28
 Antenna Name : Providence

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
41.830	71.400	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:51:01.339	2009/10/08 17:53:24.439	2.385
2009/10/09 17:50:23.538	2009/10/09 17:53:29.838	3.105

Spacecraft : G-28
 Antenna Name : Charleston

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
32.780	79.930	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/05 17:48:40.939	2009/10/05 17:50:28.939	1.800
2009/10/06 17:47:41.539	2009/10/06 17:50:53.239	3.195

Spacecraft : G-28
 Antenna Name : Columbia

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
34.000	81.030	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:47:01.039	2009/10/06 17:50:07.339	3.105
2009/10/07 17:47:06.439	2009/10/07 17:49:29.539	2.385

Spacecraft : G-28
 Antenna Name : Pierre

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
44.370	100.350	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:36:18.438	2009/10/09 17:39:08.538	2.835
2009/10/10 17:36:02.238	2009/10/10 17:38:55.038	2.880

Spacecraft : G-28

G-28 Ku-band Sun outage Fall 2009

Antenna Name : Sioux Falls

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
43.550	96.730	0.000	0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:37:50.238	2009/10/09 17:40:56.538	3.105
2009/10/10 17:37:52.938	2009/10/10 17:40:21.438	2.475

Spacecraft : G-28

Antenna Name : Knoxville

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
35.950	83.930	0.000	0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:46:15.139	2009/10/06 17:47:28.039	1.215
2009/10/07 17:44:56.839	2009/10/07 17:48:11.239	3.240

Spacecraft : G-28

Antenna Name : Memphis

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
35.150	90.050	0.000	0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/06 17:42:14.839	2009/10/06 17:44:37.939	2.385
2009/10/07 17:41:37.039	2009/10/07 17:44:40.639	3.060

Spacecraft : G-28

Antenna Name : Nashville

Geod Lat	Longitude	Altitude	Beamwidth
(deg)	(deg W)	(feet)	(deg)
36.170	86.780	0.000	0.400

Start Time : 2009/08/31 00:00:00.000

Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:43:22.339	2009/10/07 17:46:34.039	3.195
2009/10/08 17:44:00.139	2009/10/08 17:45:23.839	1.395

Spacecraft : G-28

Antenna Name : Amarillo

G-28 Ku-band Sun outage Fall 2009

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 35.180 101.830 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/06	17:35:37.939	2009/10/06 17:38:06.439	2.475
2009/10/07	17:35:02.839	2009/10/07 17:38:06.439	3.060

Spacecraft : G-28
 Antenna Name : Austin

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 30.270 97.730 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/04	17:38:46.940	2009/10/04 17:39:59.840	1.215
2009/10/05	17:37:28.639	2009/10/05 17:40:43.039	3.240

Spacecraft : G-28
 Antenna Name : Dallas

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 32.770 96.770 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/05	17:38:55.039	2009/10/05 17:40:43.039	1.800
2009/10/06	17:37:55.639	2009/10/06 17:41:07.339	3.195

Spacecraft : G-28
 Antenna Name : El Paso

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 31.770 106.480 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/05	17:32:45.139	2009/10/05 17:35:40.639	2.925
2009/10/06	17:32:34.339	2009/10/06 17:35:16.339	2.700

Spacecraft : G-28
 Antenna Name : Fort Worth

G-28 Ku-band Sun outage Fall 2009

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 32.720 97.320 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/05	17:38:33.439	2009/10/05 17:40:26.839	1.890
2009/10/06	17:37:36.739	2009/10/06 17:40:48.439	3.195

Spacecraft : G-28
 Antenna Name : Houston

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 29.750 95.350 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/04	17:39:43.640	2009/10/04 17:41:50.540	2.115
2009/10/05	17:38:55.039	2009/10/05 17:42:04.039	3.150

Spacecraft : G-28
 Antenna Name : San Antonio

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 29.380 98.550 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/04	17:37:34.040	2009/10/04 17:40:07.940	2.565
2009/10/05	17:37:04.339	2009/10/05 17:40:02.539	2.970

Spacecraft : G-28
 Antenna Name : Richfield

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 38.770 112.080 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

	Begin	End	Duration in minutes
2009/10/07	17:30:40.939	2009/10/07 17:33:01.339	2.340
2009/10/08	17:30:00.439	2009/10/08 17:33:06.739	3.105

Spacecraft : G-28
 Antenna Name : Salt Lake City

Geod Lat Longitude Altitude Beamwidth

G-28 Ku-band Sun outage Fall 2009

(deg) (deg W) (feet) (deg)
 40.770 111.900 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:30:30.139	2009/10/08 17:33:33.739	3.060
2009/10/09 17:30:30.138	2009/10/09 17:33:01.338	2.520

Spacecraft : G-28
 Antenna Name : Montpelier

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 44.250 72.530 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:49:34.938	2009/10/09 17:52:30.438	2.925
2009/10/10 17:49:24.138	2009/10/10 17:52:08.838	2.745

Spacecraft : G-28
 Antenna Name : Fairfax

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 38.870 77.330 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:49:02.539	2009/10/07 17:50:47.839	1.755
2009/10/08 17:48:03.139	2009/10/08 17:51:14.839	3.195

Spacecraft : G-28
 Antenna Name : Richmond

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 37.910 122.320 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:25:30.439	2009/10/07 17:28:36.739	3.105
2009/10/08 17:25:38.539	2009/10/08 17:27:53.539	2.250

Spacecraft : G-28
 Antenna Name : Roanoke

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)

G-28 Ku-band Sun outage Fall 2009

37.280 79.950 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:47:09.139	2009/10/07 17:50:10.039	3.015
2009/10/08 17:47:03.739	2009/10/08 17:49:40.339	2.610

Spacecraft : G-28
 Antenna Name : Virginia Beach

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 36.850 75.970 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:49:16.039	2009/10/07 17:52:25.039	3.150
2009/10/08 17:49:29.539	2009/10/08 17:51:36.439	2.115

Spacecraft : G-28
 Antenna Name : Brewster

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 48.150 119.690 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:28:25.938	2009/10/10 17:31:32.238	3.105
2009/10/11 17:28:34.038	2009/10/11 17:30:54.438	2.340

Spacecraft : G-28
 Antenna Name : Seattle

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 47.620 122.330 0.000 0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:27:15.738	2009/10/10 17:30:30.138	3.240
2009/10/11 17:27:50.838	2009/10/11 17:29:25.338	1.575

Spacecraft : G-28
 Antenna Name : Spokane

Geod Lat Longitude Altitude Beamwidth
 (deg) (deg W) (feet) (deg)
 47.670 117.430 0.000 0.400

G-28 Ku-band Sun outage Fall 2009

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/10 17:29:06.438	2009/10/10 17:32:18.138	3.195
2009/10/11 17:29:25.338	2009/10/11 17:31:29.538	2.070

Spacecraft : G-28
 Antenna Name : Charleston

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
38.350	81.630	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/07 17:46:34.039	2009/10/07 17:48:49.039	2.250
2009/10/08 17:45:50.839	2009/10/08 17:48:57.139	3.105

Spacecraft : G-28
 Antenna Name : Milwaukee

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
43.030	87.920	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/09 17:42:09.438	2009/10/09 17:45:18.438	3.150
2009/10/10 17:42:25.638	2009/10/10 17:44:29.838	2.070

Spacecraft : G-28
 Antenna Name : Cheyenne

Geod Lat (deg)	Longitude (deg W)	Altitude (feet)	Beamwidth (deg)
41.150	104.870	0.000	0.400

Start Time : 2009/08/31 00:00:00.000
 Stop Time : 2009/12/29 00:00:00.000

Begin	End	Duration in minutes
2009/10/08 17:34:03.439	2009/10/08 17:36:48.139	2.745
2009/10/09 17:33:41.838	2009/10/09 17:36:37.338	2.925

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