

**SPOL CALIBRATION HISTORY**

DATE	Freq MHz	Tx Pwr		Testpulse		NOISE PWR (CPLR) (dBm) @ 804 kHz		Without Noise Correction				
		Cplg Factor		Cplg Factor				Ant Gain		Sys Gain		
		HOR	VER	HOR	VER	HOR	VER	Solar	Ver	Hor	Ver	
1994	2809											Seavey measured
09-Apr-96	2813					-115.70	-115.40					FL1
27-Dec-96	2745					-116.00	-115.50					East Lake
18-Apr-96	2809	56.40	56.40	-36.00	-35.60	-115.20	-115.40					CASES. New Preselectors.
22-Oct-97	2809	56.30	56.40	-35.90	-35.70							Diode power meters now used
17-Nov-97	2809											horn at Mesa
12-Feb-98	2809					-115.20	-114.80					Mitch determined bandwidth = 804 khz 4/23/98
20-Feb-98	2809							46.20	46.70	45.71	45.93	
12-Mar-98	2809							46.60	46.70	46.11	45.93	Flux based on Penticton data @2800mhz or Palehua @2695 and 49
19-Mar-98	2809											~ 1 foot of wet snow on ground.
26-Mar-98	2809							45.80	45.90	45.31	45.13	1840Z & 2130Z. Jon says he has ~ 1/4 dB better peak than previous
22-Apr-98	2809											
22-Apr-98	2809							45.40	46.00	44.91	45.23	Best ever. Using Mitch's Range Averaging.
29-Apr-98	2809					-115.10	-114.80					Jon measures from processor.
29-Apr-98	2809							45.60	45.60	45.11	44.83	Solar power measures 0.2 dB more (both) with noise correction.
01-May-98	2809							46.00	45.90	45.51	45.13	Solar power 0.2 dB more Hor, 0.1 dB more Ver with noise correction.
11-May-98	2809									45.61	45.43	Eldorado Mountain
14-May-98	2809							45.90	45.70	45.41	44.93	Loaner TR tube(unknown loss) in Hor channel.
18-Jul-98	2809	56.70	57.32	-35.90	-35.60	-115.20	-114.50	46.03	45.05	45.51	45.30	1st cal in Florida for PRECIP98
19-Jul-98	2809							46.12	46.14	45.60	45.39	2nd cal in Florida for PRECIP98
20-Jul-98	2809							46.10	46.02	45.58	45.27	3rd cal in Florida for PRECIP98
11-Aug-98	2809							46.12	46.14	45.60	45.39	4th cal in Florida for PRECIP98
25-Sept-98	2809							46.05	46.12	45.53	45.37	5th cal in Florida for PRECIP98
12-Jan-99	2809	56.80	57.10	-35.90	-35.55	-115.20	-114.50	45.90	46.03	45.38	45.28	1st cal in Brazil. Used Penticton flux values, Noise cal from Florida.
19-Jan-99	2809							46.09	46.14	45.57	45.39	2nd cal in Brazil. Done in morning at 1250GMT
27-Jan-99	2809							45.93	46.05	45.41	45.30	3rd cal in Brazil. Done in morning at 1330GMT
02-Feb-99	2809							45.89	46.08	45.37	45.33	4th cal in Brazil. Done in morning at 1240GMT
07-Sep-99	2786	57.00	57.30	-35.88	-35.32	-115.20	-115.00	46.11	46.18	44.88	45.22	1st cal in Italy. Done in morning at 0730GMT, Noise cal from Italy 9/
10-Sep-99	2786							46.27	46.43	45.04	45.47	Cal done in morning at 0900GMT. Az error+0.2, El error +0.7
10-Sep-99	2786							46.23	46.33	45.00	45.37	Cal done in afternoonat 1400GMT. Az error +0.1, El error -0.8
21-Sep-99	2786							46.10	46.22	44.87	45.26	Cal done in morning at 1040GMT. Az error+0.3, El error +0.5
21-Sep-99	2786							45.86	45.96	44.63	45.00	Cal done in afternoonat 1430GMT. Az error -0.2, El error -0.5
12-Oct-99	2786							46.02	46.02	44.79	45.06	First cal done after feed replacement. Taken at 1240GMT
14-Oct-99	2786							46.19	46.19	44.96	45.23	Second cal with new feed. Taken at 1243GMT
02-Nov-99	2786							45.83	45.63	44.60	44.67	Taken at 0900GMT. Some heavy cloud in area. AZ -0.2, El +0.9
07-Nov-99	2786							45.88	44.58	44.65	43.62	Last cal in Italy, done at 11:30GMT. Az error +0.1, El error -0.1
13-May-00	2809	56.80	57.15	-35.85	-35.55	-115.20	-115.00	45.67	45.19	44.82	44.44	1st cal for STEPS. May have noise correction
24-May-00	2809							46.03	45.66	45.18	44.91	2nd cal for STEPS.
27-May-00	2809							45.34	45.04	44.49	44.29	
11-Jun-00	2809							46.02	45.66	45.17	44.91	
16-Jun-00	2809							45.83	45.46	44.98	44.71	
18-Nov-00	2809	56.80	57.15	-35.85	-35.55	-115.30	-115.20	46.09	45.78	45.02	44.69	1st cal for IMPROVE, new noise cal values from 15 Nov. 2000
06-Jan-01	2809							45.92	45.62	44.85	44.53	
11-Jan-01	2809							46.22	45.88	45.15	44.79	
15-Jan-01	2809							45.93	45.67	44.86	44.58	Using noise cal from 15 Nov 2000
15-Jan-01	2809	56.80	57.15	-35.85	-35.55	-115.90	-115.70	45.54	45.30	44.87	44.59	Using noise cal from 15 Jan 2001
22-Jan-01	2809							45.69	45.47	45.02	44.76	
31-Jan-01	2809							45.67	45.40	45.00	44.69	
02-Feb-01	2809							45.72	45.45	45.05	44.74	Last cal for IMPROVE done at 2200GMT, AZ 205.5, EL 24.0, 0 offse
08-Nov-01	2809	56.80	57.15	-36.10	-35.65	-115.30	-115.40	46.14	45.73	45.11	44.81	1st cal for IMPROVE2 plus coupler and noise calibrations with new V
03-Dec-01	2809	56.80	57.15	-36.10	-35.65	-115.80	-115.50	45.27	45.15	44.61	44.33	1st cal with CHILL rotary joint, new noise calibrations done 12/3/01

05-Dec-01	2809							45.37	45.36	44.71	44.54	Hor. W/G loss = 0.66dB, Vert W/G loss = 0.43dB
07-Dec-01	2809							45.35	45.34	44.69	44.52	Last cal for IMPROVE2 done at 1748GMT, AZ 148.9, EL 16.7, 0 offs
25-May-02	2809	56.8	57.15	-36.1	-35.65	-115.8	-115.5	45.44	45.59	44.78	44.77	IHOP cal done with rebuilt rotary joint, but old noise cal temperatures
31-May-02	2809							45.23	45.39	44.57	44.57	Solar cal using old noise cal
13-Jun-02	2809					-115.8	-115.4					Noise cal with rebuilt rotary joint
18-Jun-02	2809							45.18	45.2	44.55	44.51	Solar cal using noise cal done on June 13th.
22-Jun-02	2809							45.34	45.37	44.712	44.68	