



Solar Eclipse QSO Party

FULL RESULTS

22 May 2018
Rev. 28 May 2018

Summary

(The following text is based on information published on the HamSCI website (hamsci.org) and the Feb 2018 *QST* article, “The Solar Eclipse QSO Party” by Ward Silver, NØAX)

The question, “Will anybody participate in the Solar Eclipse QSO Party (SEQP)?” Was answered loud and clear on eclipse day, August 21st. The HF bands were busy from the first minute of the SEQP at 1400 UTC to the closing bell at 2200 UTC. Logs were received from 566 stations. Some operated on all bands, others concentrated on one or two. In total, the SEQP generated over 618,000 RBN spots, 630,000 WSPRNet spots, 1.2 million PSKReporter spots, and 29,000 logged QSOs. The Sun may have taken a lunar nap but the bands were full of life!

How was propagation? Excellent for mid-August, actually! The Sun held off on generating any flares or CMEs so conditions were relatively quiet until well after the SEQP was done and the eclipse no longer visible in North America. During the SEQP, the smoothed sunspot number (SSN) was 44, solar flux hit 83, and K_p was 3 or less — pretty good in summer near a solar minimum. These quiet geomagnetic conditions made the contact data more valuable since the effect of disturbances was minimized.

It was fairly conclusively demonstrated that the shadow of the eclipse stops ion production in the ionosphere. Amateurs observed Doppler shifts, phase shifts, and amplitude changes in WWV, WWVB, and AM radio station reception. The SEQP observations suggest the F layer rose and the D layer was depleted during the eclipse. While these effects weren’t unexpected, they have been observed in far greater detail than ever before. This data supports the finely-detailed validation of ionospheric and geomagnetic models against the recorded data. That is where “new science” often happens as unexpected subtle behavior of a natural phenomenon is examined and explained.

The first paper to be published was written by HamSCI founding member, Dr. Nathaniel Frissell, W2NAF — “Modeling Amateur Radio Soundings of the Ionospheric Response to the 2017 Great American Eclipse,” in which Reverse Beacon Network (RBN) observations of the SEQP were compared with raytracings through an eclipsed version of the physics-based ionospheric model SAMI3. (The paper was published in the American Geophysical Union journal *Geophysical Research Letters* – see the HamSCI website for more information.)

This initial HamSCI event echoes the success of amateur-research collaboration reaching back nearly a century to the Listening Tests of the early 1920s establishing the ionosphere’s existence. Here we are again! Stay tuned for the next opportunity to contribute your skills as we “advance the radio art!” Thanks to all the stations who participated around the world, generating valuable data and a chance to learn more about how the ionosphere works.

TOP TEN

Congratulations to the top scoring stations: radiosport veteran, Bud AA3B, led all Single-Op participants, operating from Boyertown, PA (FN2oei). Bud was able to win over fellow contest veteran, K4BAI.

In the Multi-Op category, the Elayer Contest Club*, WØECC (EM47jw) in the path of totality near Steelville, MO, outdistanced other stations, including nearby WØD in DeSoto, MO, where the total eclipse was seen, as well. (* - Yes, there really is an Elayer, MO, about 7 miles east of Steelville!)

Active testers will recognize many of the Top Ten calls. The special calls obtained for the SEQP were particularly welcome and many excellent QSLs were printed.

Single-Operator Top Ten							
			Spots				
Call	QSOs	Grids	PSK	RBN	Cluster	Bonus	Score
AA3B	1360	296	76	584	5	1,415	403,975
K4BAI	902	248	31	470	5	806	224,502
W1SJ	789	228	25	362	3	990	180,882
K9BGL	795	216	18	432	2	752	172,472
N4BP	888	170	23	422	2	747	151,707
W1UJ	696	169	21	371	0	742	118,366
W9XY	554	205	9	294	5	658	114,228
W6RDF	632	171	4	243	2	749	108,821
K2DSW	616	166	13	320	3	636	102,892
N8PW	792	113	9	194	5	608	90,104
Multioperator Top Ten							
			Spots				
Call	QSOs	Grids	PSK	RBN	Cluster	Bonus	Score
WØECC	868	221	12	329	10	651	192,479
WØD	730	153	12	288	3	853	112,543
W5GAD	557	167	7	257	1	615	93,634
W9S	312	109	341	42	3	886	34,894
W7O	173	113	0	0	8	308	19,857
W8EDU	222	73	5	74	1	430	16,636
W4E	184	79	10	0	3	313	14,849
N9EP	187	68	7	117	0	1,224	13,940
WA5POK	179	68	3	101	1	655	12,827
K8UTT	109	62	0	0	0	400	7,158

ABSXM	12	6	96	17	0	463	535	KG2DWS	3	3	0	0	0	300	309
N9BD	9	9	0	0	0	450	531	KK1VT	3	3	0	0	0	300	309
N6BCT	10	7	0	8	0	458	528	AF6HC	3	1	0	0	0	300	303
K1NKR	5	5	0	0	0	500	525	KA3MTT	0	0	0	3	0	303	303
K1XRN	20	11	5	0	0	305	525	KØALB	2	1	0	0	0	300	302
KC2WJUF	22	7	71	0	0	371	525	W6JWP	1	1	0	0	0	300	301
KG4GVJ	12	6	2	0	0	452	524	N6MRS	0	0	0	0	0	300	300
W8DSB	3	3	207	0	0	507	516								
KD5HIP	0	0	161	0	0	511	511								
K5NA	20	10	0	9	1	310	510								
N6REK	8	6	159	0	0	459	507								
KB1IRB	8	7	0	0	0	450	506								
W2NP	18	8	8	2	0	360	504								
W7DGP	0	0	102	0	0	502	502								
YO3GNF	8	4	148	17	0	465	497								
KC9UNL	11	11	75	0	0	375	496								
KM4VCF	14	14	0	0	0	300	496								
W3KWH	9	9	115	0	0	415	496								
AB3RU	16	8	0	9	0	359	487								
K7NWM	6	6	0	0	0	450	486								
KD2HWE	6	6	0	0	0	450	486								
KM4OZH	6	6	0	0	0	450	486								
KK4TSS	0	0	135	0	0	485	485								
N2HHT	18	9	1	22	0	323	485								
WXØM	0	0	84	0	0	484	484								
NO7DE	12	6	5	4	0	409	481								
N7TWS	20	1	2	56	0	458	478								
N5RHS	5	5	0	0	0	450	475								
K4JWX	9	8	0	0	0	400	472								
WØPWVE	16	7	0	3	0	353	465								
KØGW	18	8	1	18	0	319	463								
OM5UM	8	3	5	32	0	437	461								
CT7AIX	16	8	3	28	0	331	459								
NØAXZ	0	0	152	0	0	452	452								
KWØKW	1	1	0	0	0	450	451								
W9WB	0	0	0	0	0	450	450								
K1OTZ	6	2	85	0	0	435	447								
KDØFZT	13	11	0	0	0	300	443								
VA3EC	16	7	0	30	0	330	442								
AB9PR	10	9	0	0	0	350	440								
W3RL	8	4	1	6	0	407	439								
K2HVE	11	8	0	0	0	350	438								
NJØP	14	6	0	4	0	354	438								
WA4VKA	7	5	0	0	0	400	435								
AF4MP-M	9	9	0	0	0	350	431								
KBØLQJ	0	0	76	0	0	426	426								
N8BD	9	8	0	0	0	350	422								
K6GME	12	10	0	0	0	300	420								
N1FI	8	8	0	0	0	350	414								
WD5ABC	2	1	1	10	0	411	413								
K2RYD	10	6	0	0	0	350	410								
N2FYE	0	0	0	9	0	409	409								
WA7DHO	10	10	0	0	0	300	400								
KM1G	14	7	0	1	0	301	399								
NØDIM	7	7	0	0	0	350	399								
VA7NLF	11	9	0	0	0	300	399								
W4FEB	7	7	0	0	0	350	399								
K1NZ	6	3	75	0	0	375	393								
KT4BOB	6	6	57	0	0	357	393								
K7YMA	7	6	0	0	0	350	392								
KD1VY	6	3	1	22	1	374	392								
N5EKW	0	0	42	0	0	392	392								
KA3SME	6	6	0	0	0	350	386								
KC6ZKT	6	6	0	0	0	350	386								
KT3P	0	0	82	0	0	382	382								
K7RBT	12	6	0	6	1	307	379								
N7MSI	5	5	0	0	0	350	375								
VE2GT	5	5	0	0	0	350	375								
N3ATE	6	4	0	0	0	350	374								
SV8CYV	2	1	2	19	0	371	373								
N8TFD	12	6	0	0	0	300	372								
K3RRP	5	4	0	0	0	350	370								
AF4HL	6	3	0	0	0	350	368								
AB7WP	4	4	0	0	0	350	366								
AD5KZ	4	4	0	0	0	350	366								
KC3ASH	4	4	0	0	0	350	366								
KC9UXC	4	4	0	0	0	350	366								
SV8CYR	0	0	4	12	0	366	366								
KC1AEO	5	3	0	0	0	350	365								
KT8TD	8	8	0	0	0	300	364								
KC4SI	4	2	0	5	0	355	363								
SV8GXQ	2	1	50	8	0	358	360								
WØJJR	3	3	0	0	0	350	359								
W6KRF	3	3	0	0	0	350	359								
KØSAU	0	0	7	0	0	357	357								
K6DGO	10	4	0	17	0	317	357								
WB1CZX	0	0	4	0	0	354	354								
KA2BXH	10	5	2	0	0	302	352								
KB2PSI	1	1	0	0	0	350	351								
N4RDZ	1	1	0	0	0	350	351								
W8WDW	1	1	0	0	0	350	351								
KA9GDW	4	0	0	0	0	350	350								
WA4CZD	2	0	0	0	0	350	350								
KD8UPX	7	7	0	0	0	300	349								
N8VQG	7	7	0	0	0	300	349								
K9QJS	2	1	0	39	0	339	341								
KG7DMI	8	4	8	0	0	308	340								
NP4LW	5	5	0	0	0	300	325								
KA6BID	4	2	0	14	0	314	322								
KD2ABK	4	4	0	0	0	300	316								
N1SER	2	2	12	0	0	312	316								
W7YG	4	4	0	0	0	300	316								
KC2JQ	4	3	0	0	0	300	312								

Multioperator Scores

Call	QSOs	Grids	PSK	Spots		Bonus	Score
				RBN	Cluster		
WØECC	868	221	12	329	10	651	192,479
WØD	730	153	12	288	3	853	112,543
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W8EDU	222	73	5	74	1	430	16,636
W4E	184	79	10	0	3	313	14,849
N9EP	187	68	7	117	0	1,224	13,940
WA5POK	179	68	3	101	1	655	12,827
K8UTT	109	62	0	0	0	400	7,158
KB1WXM	107	53	0	0	2	402	6,073
WØC	128	42	330	0	3	633	6,009
W2NPT	122	38	3	142	0	495	5,131
N8KR	120	35	3	65	0	418	4,618
AD7L	97	39	5	57	0	612	4,395
W1HS	66	46	82	0	2	384	3,420
K2AA	79	36	83	3	0	536	3,380
KK5HT	88	31	130	41	0	471	3,199

KØUSA	58	46	0	0	1	401	3,069
WASTVO	92	28	51	81	0	482	3,058
K4E	68	38	1	72	0	423	3,007
W2NAF	44	37	1	0	1	302	1,930
K5PM	37	26	0	0	1	751	1,713
K5CS	50	22	23	28	0	401	1,501
KF7GGN	48	22	0	15	0	365	1,421
AASAD	54	19	1	34	0	335	1,361
W7TR	42	20	0	28	0	428	1,268
K7EFA	32	18	0	17	0	417	993
W9CEQ	19	19	0	0	0	550	911
NR4J	28	13	3	4	0	507	871
W5RRR	24	12	26	0	0	576	864
W3ZIC	25	22	0	0	0	300	850
W4BKM	25	19	0	0	0	300	775
KCØP	30	7	3	49	0	552	762
W2KGY	20	18	0	0	1	301	661
VE3NFN	20	7	3	16	0	469	609
TGØAA	24	10	2	46	3	351	591
W1TOD	16	15	0	0	0	350	590
KI5SC	11	11	0	0	0	400	521
KD4UYP	4	4	0	0	0	500	516

W9S and WA5POK were added to the Multiop results with the 28 May 2018 revision. Their logs were submitted properly but problems with the submission process caused them to be lost.