

Introduction

A number of individuals based around the UK used the Forward Scatter technique (Using BRAMS and Graves) to detect and record Radio Meteor Events, monthly this data is then added to a central database. Given the receiving stations all different in setup and there is little or no standardisation across the stations there are limits to how the data can be used in a scientific context.

We can however plot trends and create matched events (Events with a duration that exceed 10 seconds recorded by three or more different contributors and are \pm within 2 seconds of each other)

Contributor Locations

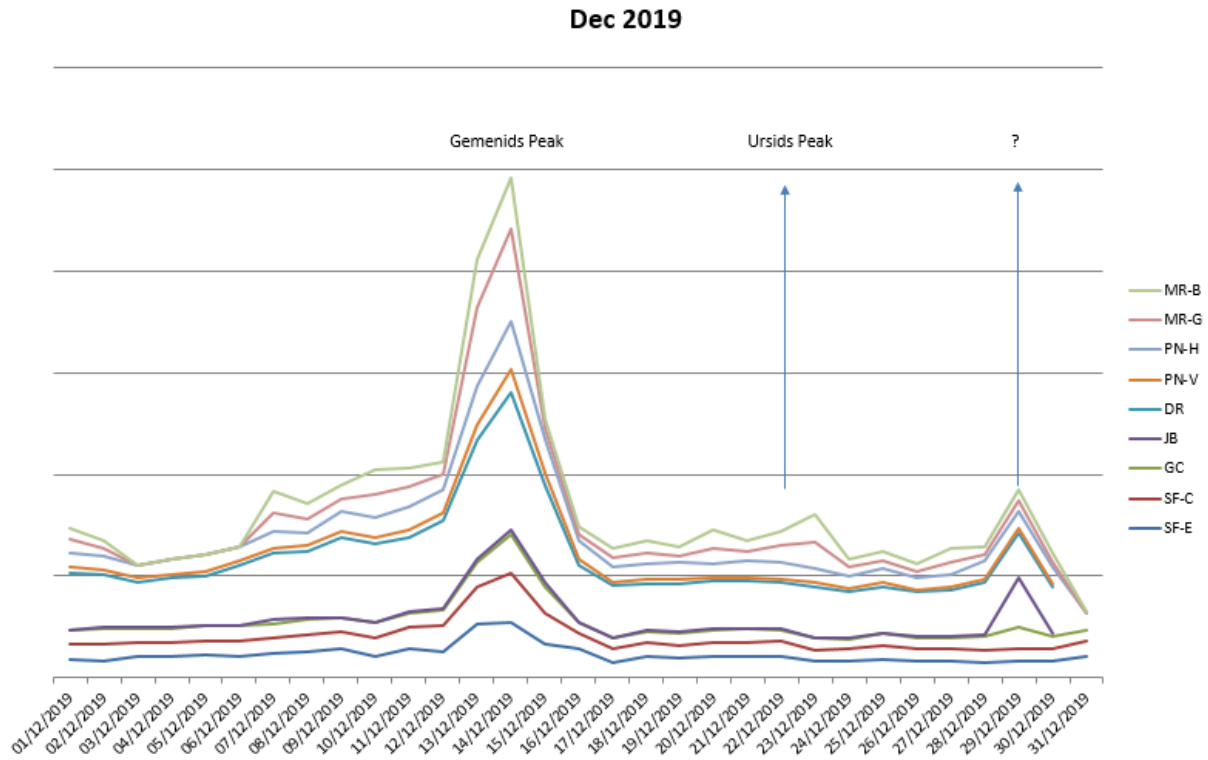


Key Meteor showers in Dec 2019

Shower	Dates	Peak
Gemenids	7 Dec – 17 Dec	13/14 - Dec
Ursids	17 Dec – 25 Dec	21/22 - Dec

Trend of contributions for Dec 2019

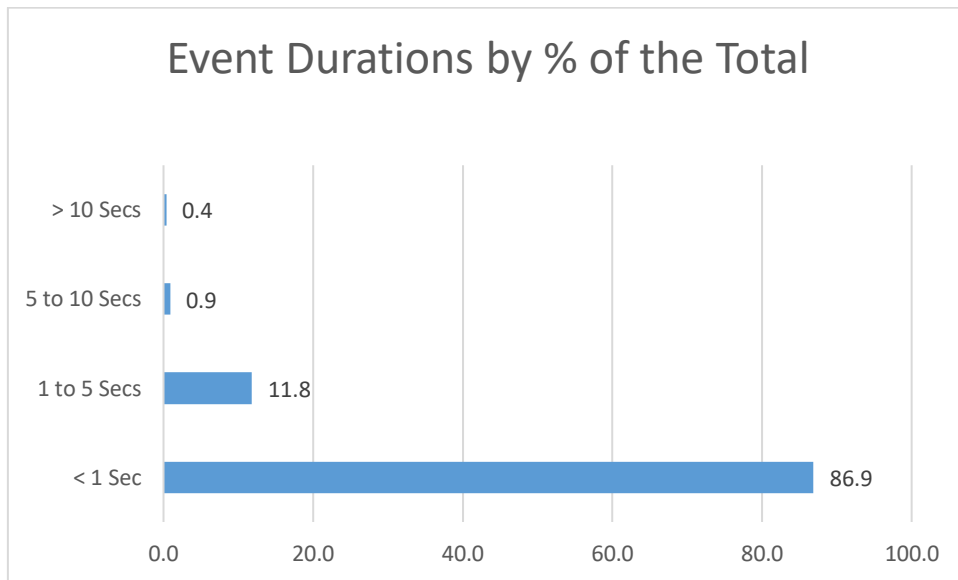
The graph below shows the trend of contributions over time for the month of Dec – Counts are not displayed as its simply a trend for the month they do show clearly peaks for Gemenids & Ursids and also a peak around the 29th ?



Dec Event data broken down into durations

	Raw Data				
Month	Total Count	< 1 Sec	1 to 5 Secs	5 to 10 Secs	> 10 Secs
Dec	103380	89824	12223	942	391

Event Durations as a % of the Total				
Month	< 1 Sec	1 to 5 Secs	5 to 10 Secs	> 10 Secs
Dec	86.9	11.8	0.9	0.4

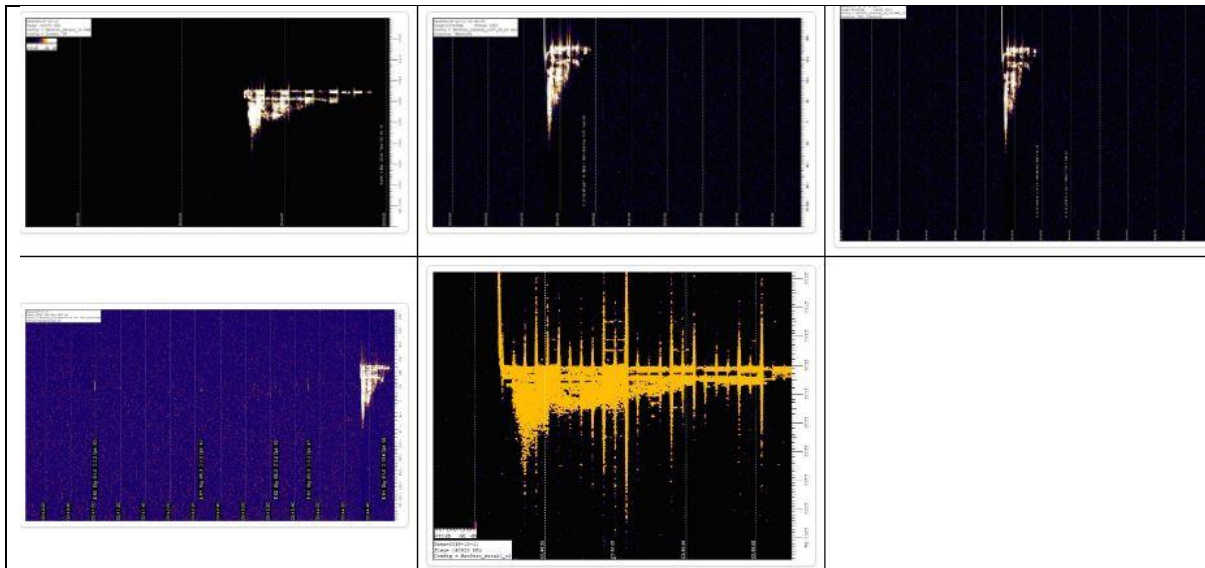


Matched Events - Events with a duration that exceed 10 seconds recorded by three or more different contributors and are + / - within 2 seconds of each other

There were 28 potential matches in Dec - the notable ones are below

Event at 2019-12-11 at 03:44:31 UTC

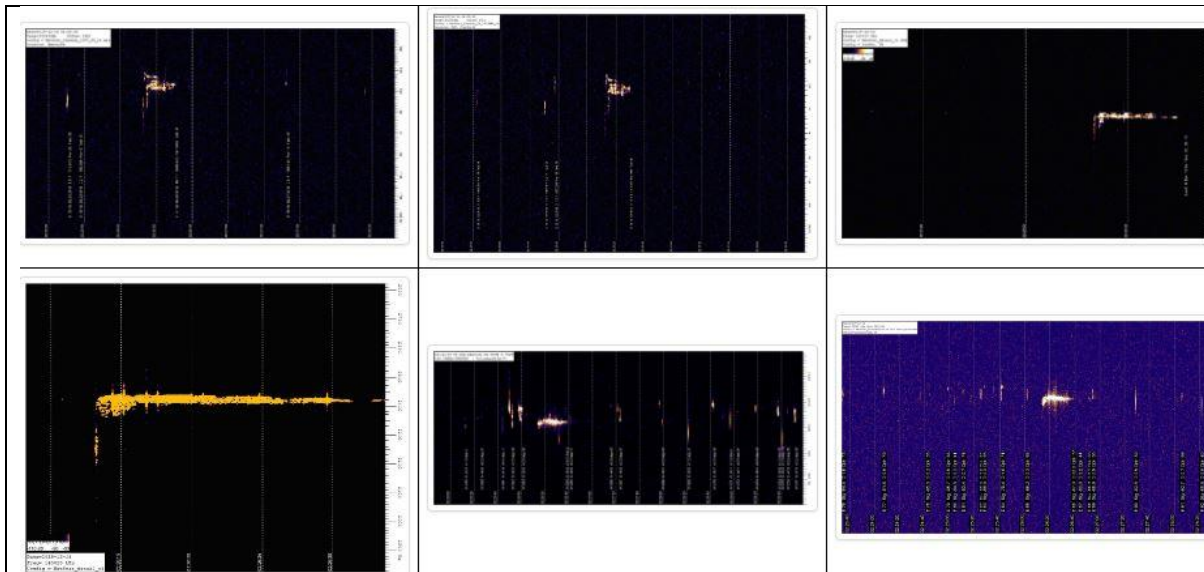
Contributor	RX Lat	RX Lng	TX Source	Time Sync	Time - UTC	Duration in Seconds	SN Ratio Calculated	Doppler Estimate Calculated
John Berman	51.4	-0.1	Graves	Dimension 4	03:44:31	25.30	53.10	58
Steve Futcher - Emsworth	50.9	-0.9	Graves	NetTime	03:44:31	18.41 Calculated	29.40	44
Steve Futcher - Clanfield	50.9	-1.0	Graves	NetTime	03:44:31	21.33 Calculated	24.20	94
Derek Robson	52.7	-1.2	Graves	Dimension 4	03:44:31	18.60	19.80	45
Graham Cluer	51.4	-1.0	Graves	Dimension 4	03:44:32	19.50 Calculated	47.50	156



Please go to <http://meteor.m81.co.uk/picview10.php?id=841> to see the full size plots

Event at 2019-12-14 at 02:26:12 UTC

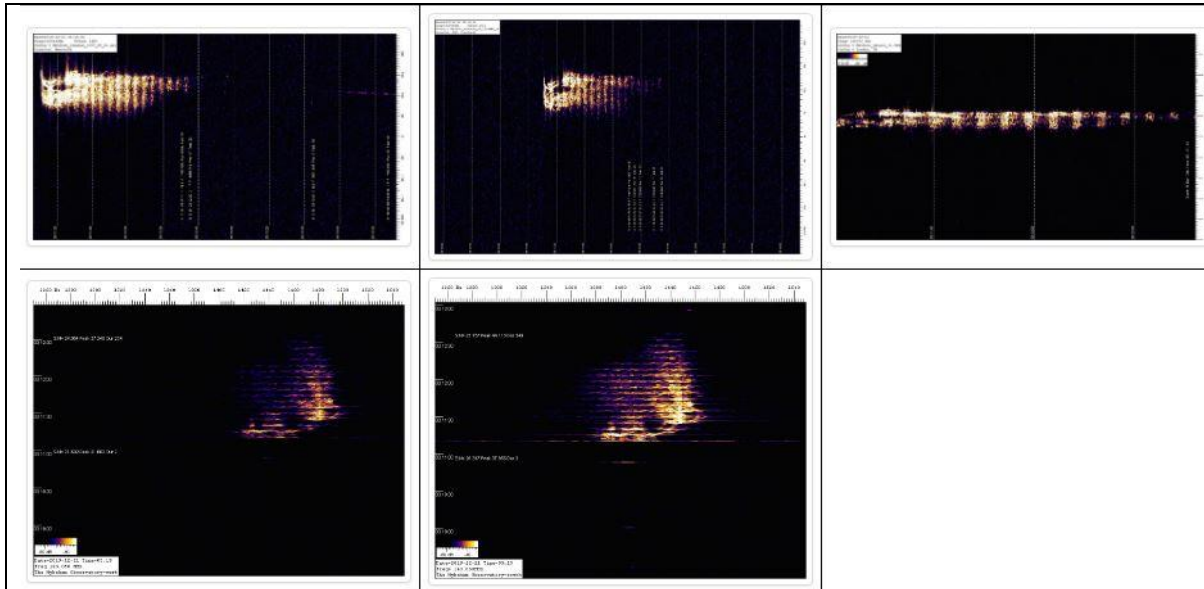
Contributor	RX Lat	RX Lng	TX Source	Time Sync	Time - UTC	Duration in Seconds	S/N Ratio Calculated	Doppler Estimate Calculated
Steve Futcher - Emsworth	50.9	-0.9	Graves	NetTime	02:26:12	16.72 Calculated	21.70	-40
Steve Futcher - Clanfield	50.9	-1.0	Graves	NetTime	02:26:12	15.53 Calculated	17.80	-78
John Berman	51.4	-0.1	Graves	Dimension 4	02:26:13	16.40	36.90	27
Graham Cluer	51.4	-1.0	Graves	Dimension 4	02:26:13	14.33 Calculated	19.90	-76
Martin Rigby - Graves	54.7	-2.6	Graves	Meinberg NTP	02:26:14	24.75	34.20	-1
Derek Robson	52.7	-1.2	Graves	Dimension 4	02:26:14	22.19	22.60	-11



Please go to <http://meteor.m81.co.uk/picview10.php?id=845> to see the full size plots

Event at 2019-12-21 at 03:11:10 UTC

Contributor	RX Lat	RX Lng	TX Source	Time Sync	Time - UTC	Duration in Seconds	SN Ratio Calculated	Doppler Estimate Calculated
Steve Futcher - Emsworth	50.9	-0.9	Graves	NetTime	03:11:10	74.40 Calculated	17.90	34
Steve Futcher - Clanfield	50.9	-1.0	Graves	NetTime	03:11:10	54.27 Calculated	20.60	3
John Berman	51.4	-0.1	Graves	Dimension 4	03:11:14	74.00	40.30	54
Philip Norton - V	53.1	-0.5	Graves	Dimension 4	03:11:14	39.00 Calculated	37.30	10
Philip Norton - H	53.1	-0.5	Graves	Dimension 4	03:11:14	58.17 Calculated	44.10	50



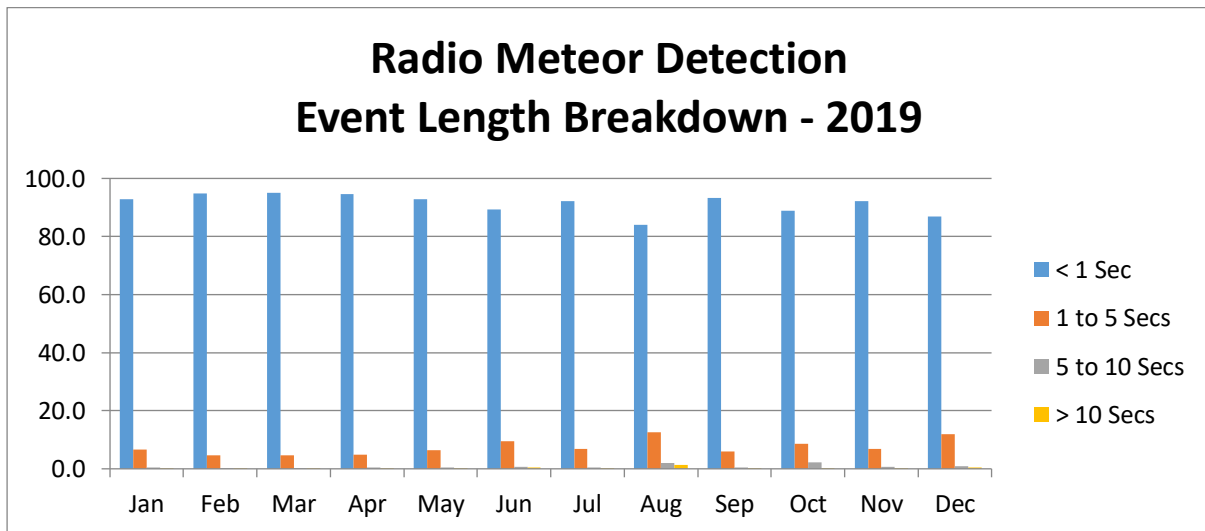
Please go to <http://meteor.m81.co.uk/picview10.php?id=852> to see the full size plots

To see all of the Dec Matches please go to:

http://meteor.m81.co.uk/duration_lookup10list.php?order=date&ordertype=DESC

Event data broken down into durations for 2019

Event Durations as a % of the Total				
Month	< 1 Sec	1 to 5 Secs	5 to 10 Secs	> 10 Secs
Jan	92.9	6.5	0.4	0.1
Feb	94.9	4.6	0.3	0.2
Mar	95.0	4.6	0.2	0.1
Apr	94.5	4.9	0.4	0.2
May	92.8	6.5	0.5	0.3
Jun	89.3	9.5	0.8	0.3
Jul	92.2	6.9	0.5	0.3
Aug	84.1	12.6	2.0	1.3
Sep	93.3	6.0	0.4	0.2
Oct	88.9	8.6	2.3	0.2
Nov	92.1	7.0	0.7	0.3
Dec	86.9	11.8	0.9	0.4



It can be clearly seen that the categorised event durations each month tend to be very aligned. You can see that in August there is an increase in longer duration events which are associated with the Perseids and for December a similar pattern for the Geminids

Please do feedback with any comments and or suggestion as to how we may make more us of this data – Jberman44@gmail.com