

## 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.

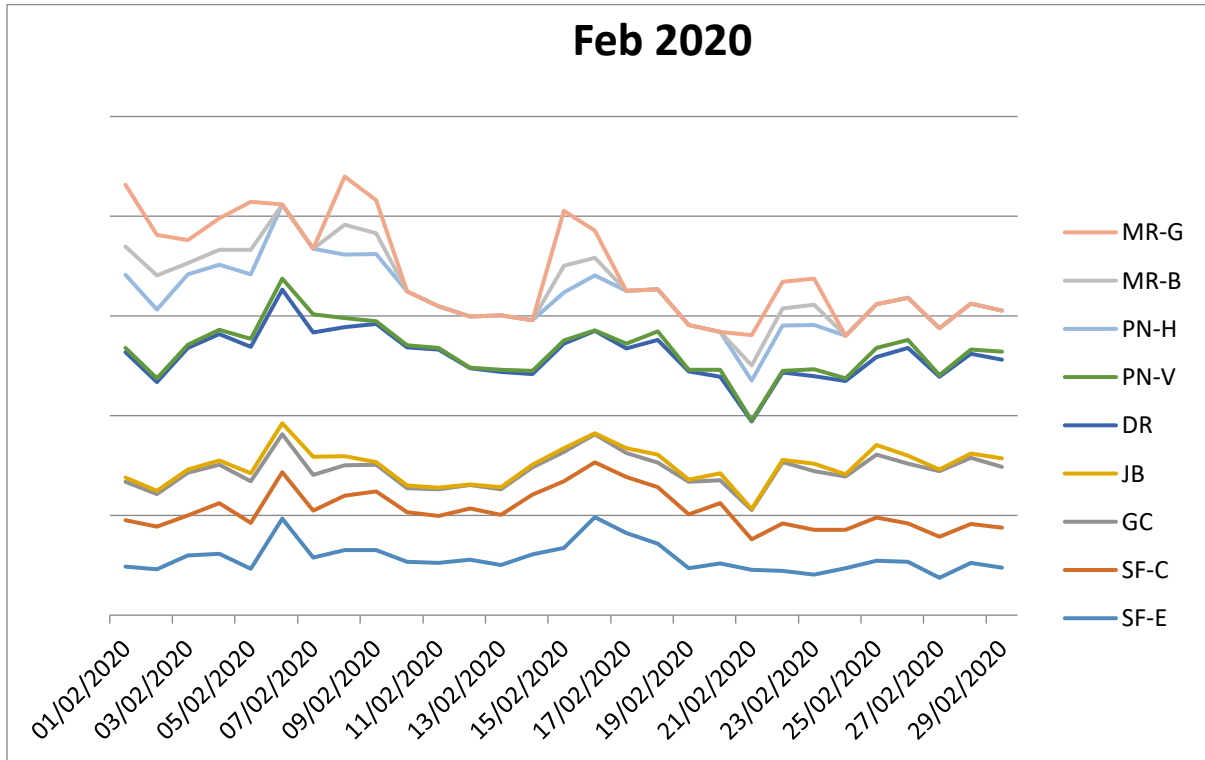
We can however plot trends and create matched events (Events with a duration that exceed 10 seconds recorded by three or more different contributors and are  $\pm$  within 2 seconds of each other)

### Contributor Locations



**Trend of contributions for Feb 2020**

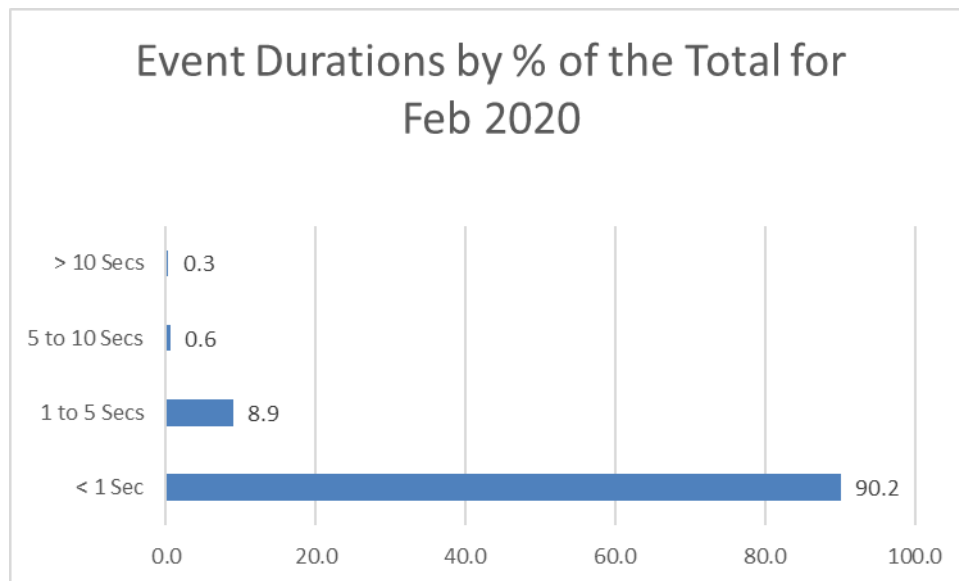
The graph below shows the trend of contributions over time for the month of Feb – Counts are not displayed as its simply a trend for the month they do show clearly a peak for the Quadrantids



## Feb Event data broken down into durations

| Month | Raw Data    |         |             |              |           |
|-------|-------------|---------|-------------|--------------|-----------|
|       | Total Count | < 1 Sec | 1 to 5 Secs | 5 to 10 Secs | > 10 Secs |
| Feb   | 51,097      | 46,066  | 4,478       | 293          | 170       |

| Event Durations as a % of the Total |         |             |              |           |
|-------------------------------------|---------|-------------|--------------|-----------|
| Month                               | < 1 Sec | 1 to 5 Secs | 5 to 10 Secs | > 10 Secs |
| Feb                                 | 90.2    | 8.9         | 0.6          | 0.3       |

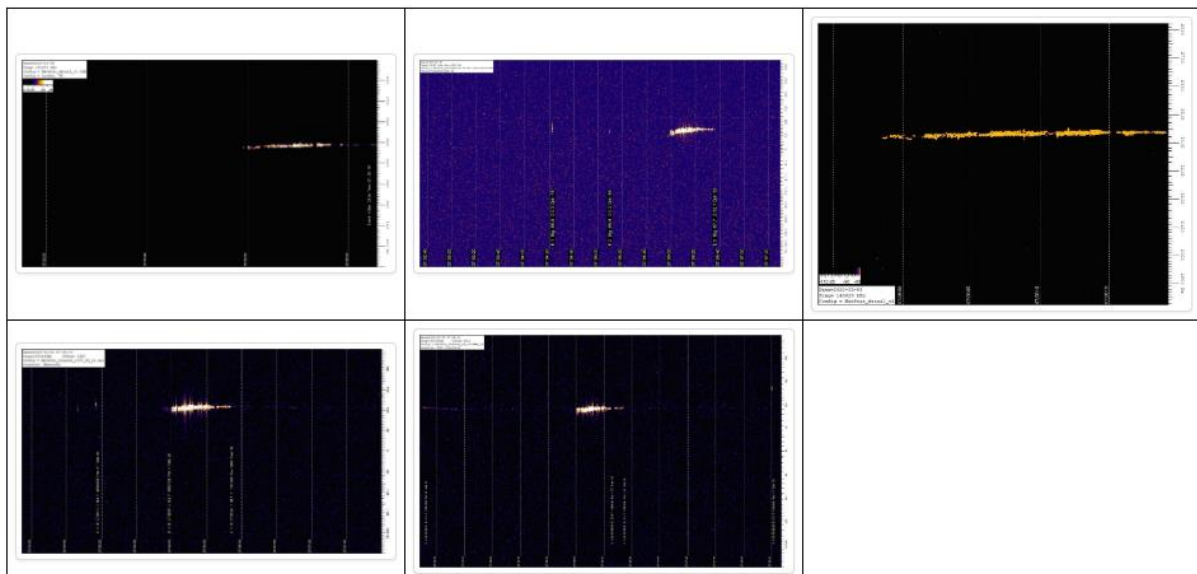


Matched Events - Events with a duration that exceed 10 seconds recorded by three or more different contributors and are + / - within 2 seconds of each other

There were 4 potential matches in Feb - the notable ones are below

**Event at 03-02-2020 at 07:05:58UTC**

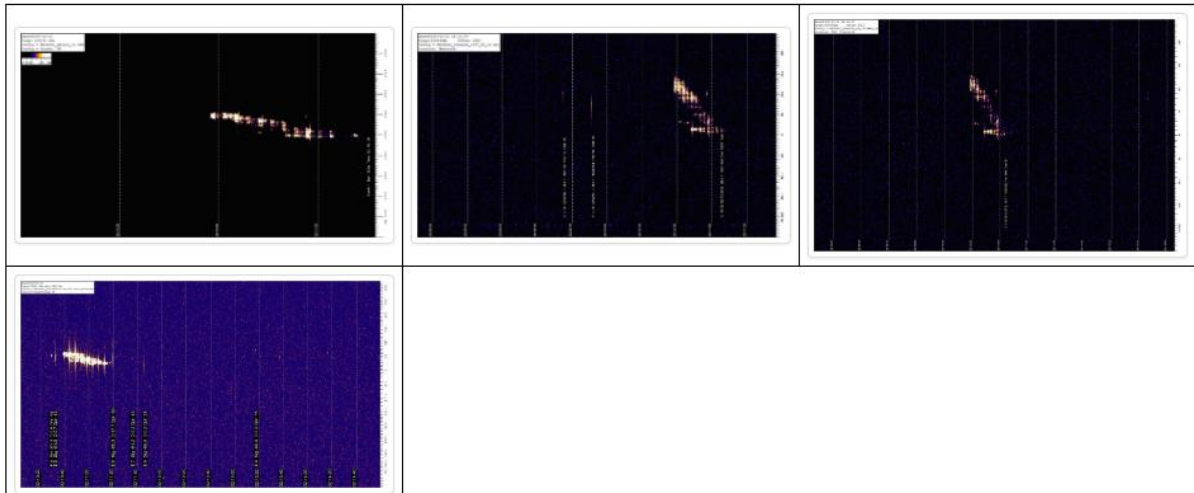
| Contributor               | RX Lat | RX Lng | TX Source | Time Sync   | Time - UTC | Duration in Seconds | SN Ratio Calculated | Doppler Estimate Calculated |
|---------------------------|--------|--------|-----------|-------------|------------|---------------------|---------------------|-----------------------------|
| John Berman               | 51.4   | -0.1   | Graves    | Dimension 4 | 07:05:58   | 23.60               | 40.80               | 14                          |
| Derek Robson              | 52.7   | -1.2   | Graves    | Dimension 4 | 07:05:58   | 32.09               | 21.90               | 2                           |
| Graham Cluer              | 51.4   | -1.0   | Graves    | Dimension 4 | 07:05:59   | 13.83<br>Calculated | 18.00               | 118                         |
| Steve Futcher - Emsworth  | 50.9   | -0.9   | Graves    | NetTime     | 07:05:59   | 31.06<br>Calculated | 19.20               | -3                          |
| Steve Futcher - Clanfield | 50.9   | -1.0   | Graves    | NetTime     | 07:06:00   | 23.38<br>Calculated | 19.40               | 0                           |



Please go to <http://meteor.m81.co.uk/picview10.php?id=871> to see the full size plots

## Event at 10-02-2020 at 02:10:38UTC

| 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 | 02:10:38   | 30.40               | 43.20               | 1                           |
| Steve Futcher - Emsworth  | 50.9   | -0.9   | Graves    | NetTime     | 02:10:38   | 20.48 Calculated    | 18.10               | 28                          |
| Steve Futcher - Clanfield | 50.9   | -1.0   | Graves    | NetTime     | 02:10:38   | 16.72 Calculated    | 26.50               | 30                          |
| Derek Robson              | 52.7   | -1.2   | Graves    | Dimension 4 | 02:10:38   | 37.72               | 22.80               | 7                           |



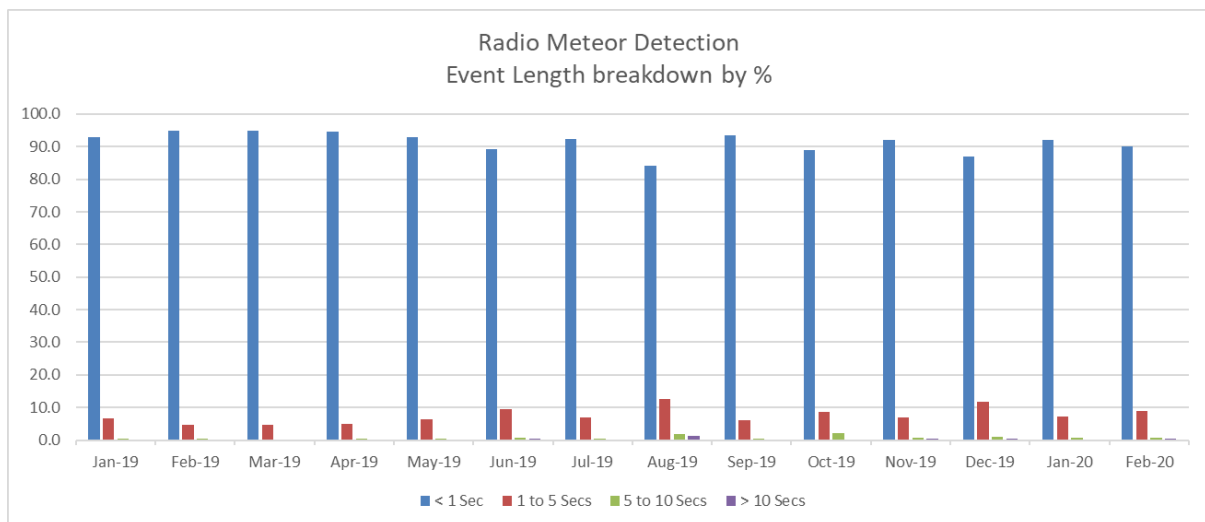
Please go to <http://meteor.m81.co.uk/picview10.php?id=872> to see the full size plots

To see all of the Feb Matches please go to:

[http://meteor.m81.co.uk/duration\\_lookup10list.php?order=date&ordertype=DESC](http://meteor.m81.co.uk/duration_lookup10list.php?order=date&ordertype=DESC)

Event data broken down into durations for 2019/20

| Event Durations as a % of the Total |         |             |              |           |
|-------------------------------------|---------|-------------|--------------|-----------|
| Month                               | < 1 Sec | 1 to 5 Secs | 5 to 10 Secs | > 10 Secs |
| Jan 19                              | 92.9    | 6.5         | 0.4          | 0.1       |
| Feb 19                              | 94.9    | 4.6         | 0.3          | 0.2       |
| Mar 19                              | 95.0    | 4.6         | 0.2          | 0.1       |
| Apr 19                              | 94.5    | 4.9         | 0.4          | 0.2       |
| May 19                              | 92.8    | 6.5         | 0.5          | 0.3       |
| Jun 19                              | 89.3    | 9.5         | 0.8          | 0.3       |
| Jul 19                              | 92.2    | 6.9         | 0.5          | 0.3       |
| Aug 19                              | 84.1    | 12.6        | 2.0          | 1.3       |
| Sep 19                              | 93.3    | 6.0         | 0.4          | 0.2       |
| Oct 19                              | 88.9    | 8.6         | 2.3          | 0.2       |
| Nov 19                              | 92.1    | 7.0         | 0.7          | 0.3       |
| Dec 19                              | 86.9    | 11.8        | 0.9          | 0.4       |
| Jan 20                              | 91.9    | 7.1         | 0.7          | 0.3       |
| Feb 20                              | 90.2    | 8.9         | 0.6          | 0.3       |



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@googlemail.com](mailto:Jberman44@googlemail.com)