Current state of **Bolidozor** network

Roman Dvořák[1], Jakub Kákona[2]

[1] Bolidozor network, Czech Republic, **romandvorak@mlab.cz**

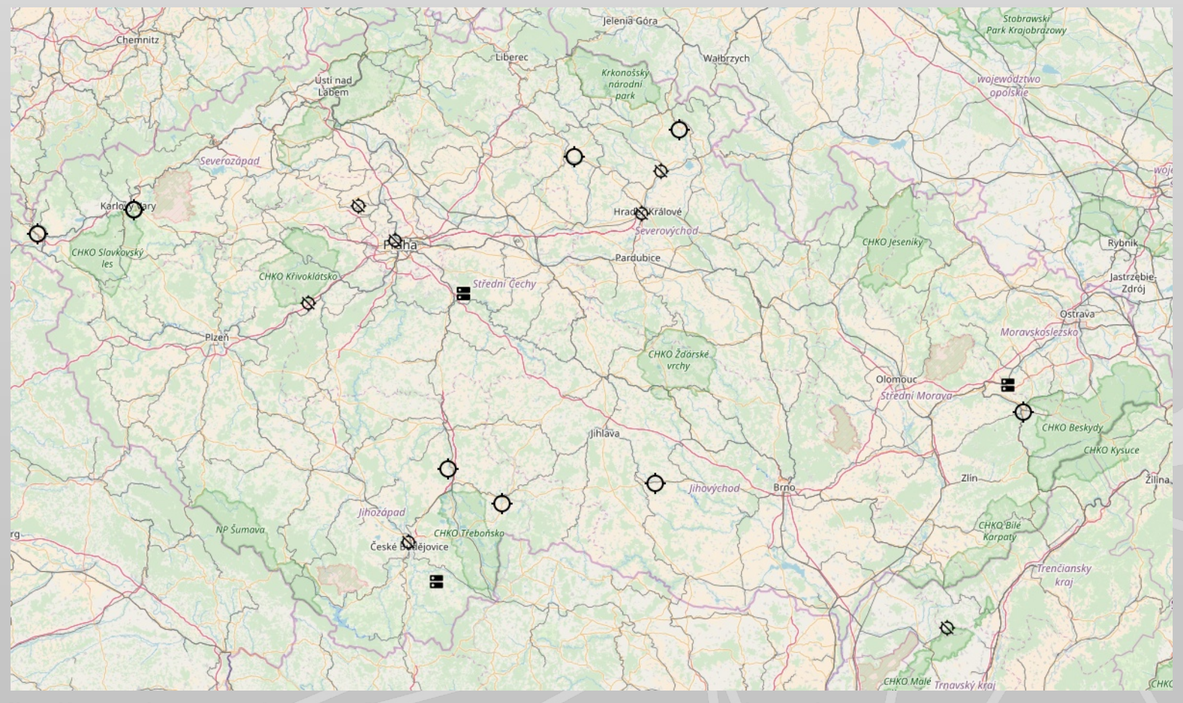
[2] Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic, **kakonjak@fel.cvut.cz**

Follow us

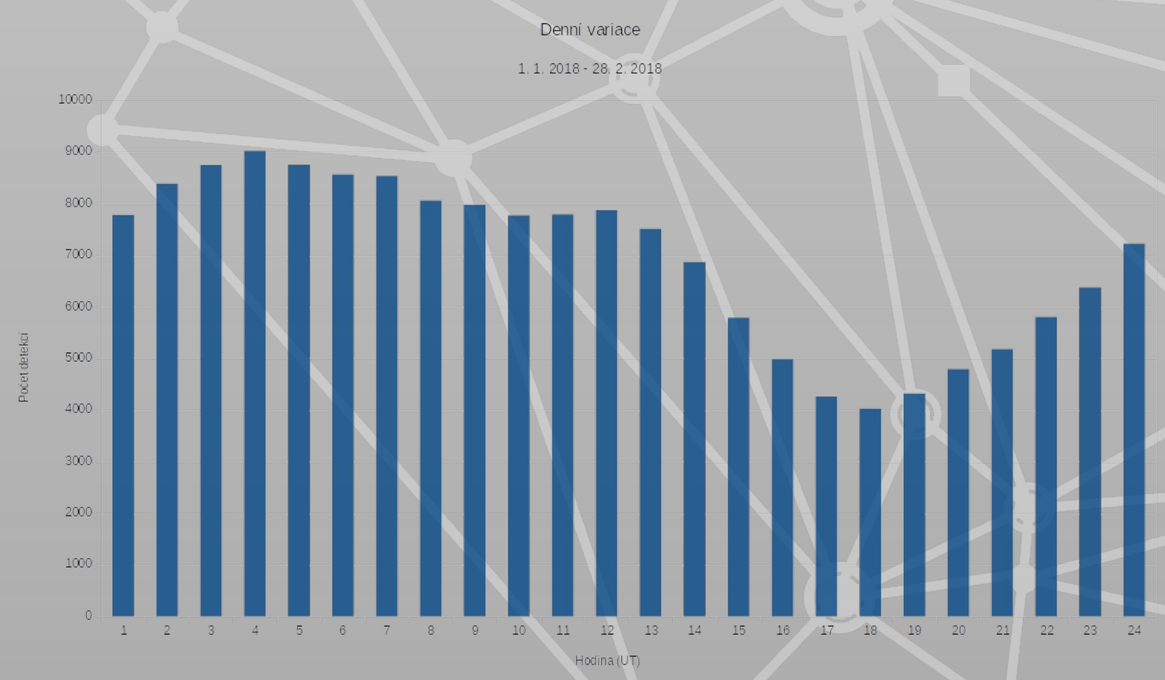
Bolidozor

Bolidozor network

The Bolidozor is a network of 9 radio meteor detection stations distributed over the central Europe. The network has been working since 2011, and is annually improved. This poster should summarize the state of the Bolidozor network and show new tools developed for the network over the course of the last year.

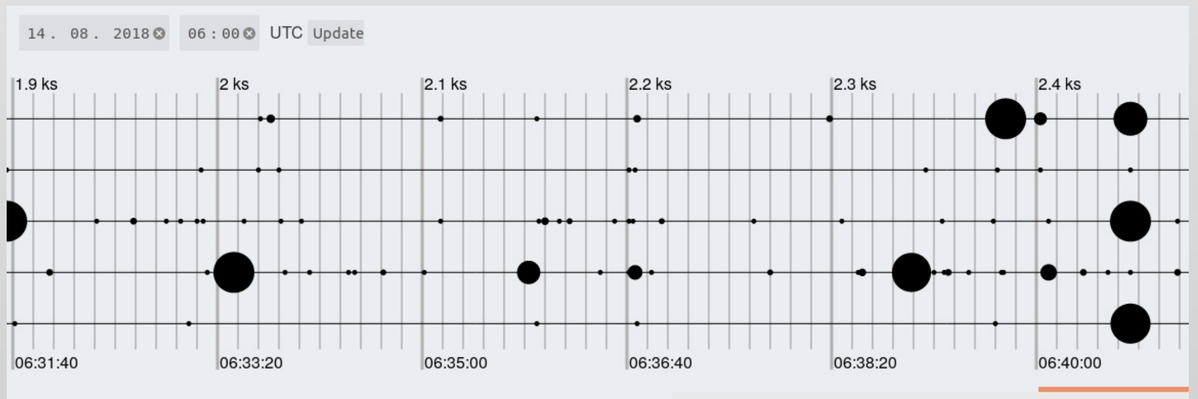


Radio observation of meteors has several advantages over video observation. It is independent of weather and daytime. What is more, the highest meteor intensity is at morning when video cameras are not effective due to daylight. The main disadvantage of radio observation is a difficulty of data interpretation and especially trajectory determination which is the aim of the Bolidozor project.



Detection stations are build up from modules from MLAB electronic laboratory, which were designed for that purpose. Thanks to that, stations produce optimized data, and they can be upgraded without a necessity to change a whole station hardware. For real-time detection and data recording, stations use one-board ARM computer. Recorded data are immediately uploaded to a common data storage server. Accurate time is ensured by mixing time pulse from GPS directly to the signal and then captured by AD converter.

TimeLine



New visualisation tool 'TimeLine' was developed for simple searching of radio-meteors that correspond to the optical observations. This representation contains several rows, lines. Every line represents one station and the corresponding dots represent detection of the meteor. The size of a dot expresses the duration of the event and the position on line expresses the time of the event. Hovering mouse over the meteor dot shows more parameters about the event and meteor preview. TimeLine and other tools can be found at rtbolidozor.astro.cz

Future ideas

Because in signal processing, there are aspects , that can be difficult to detect automatically, we have prepared Citizen-science project - BolidozorZoo. This project involves general public in classifying scientific data from the Bolidozor network.

Our citizen-science project is divided into several parts - applications. Every application is classifying different parameters of radio-meteor records. Two apps are expected to be developed at the beginning.

The first application is aimed to obtain parameters of radio meteors which are important for selecting meteors for additional processing and trajectory determination. Volunteers will evaluate the visibility of head-echo and the type of the meteor tail.

The second application is targeted to comparison of small (short duration) meteors and finding multistation meteors based on visual similarity.