Current state of **Bolidozor** network

Roman Dvořák[1], Jakub Kákona[2]

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

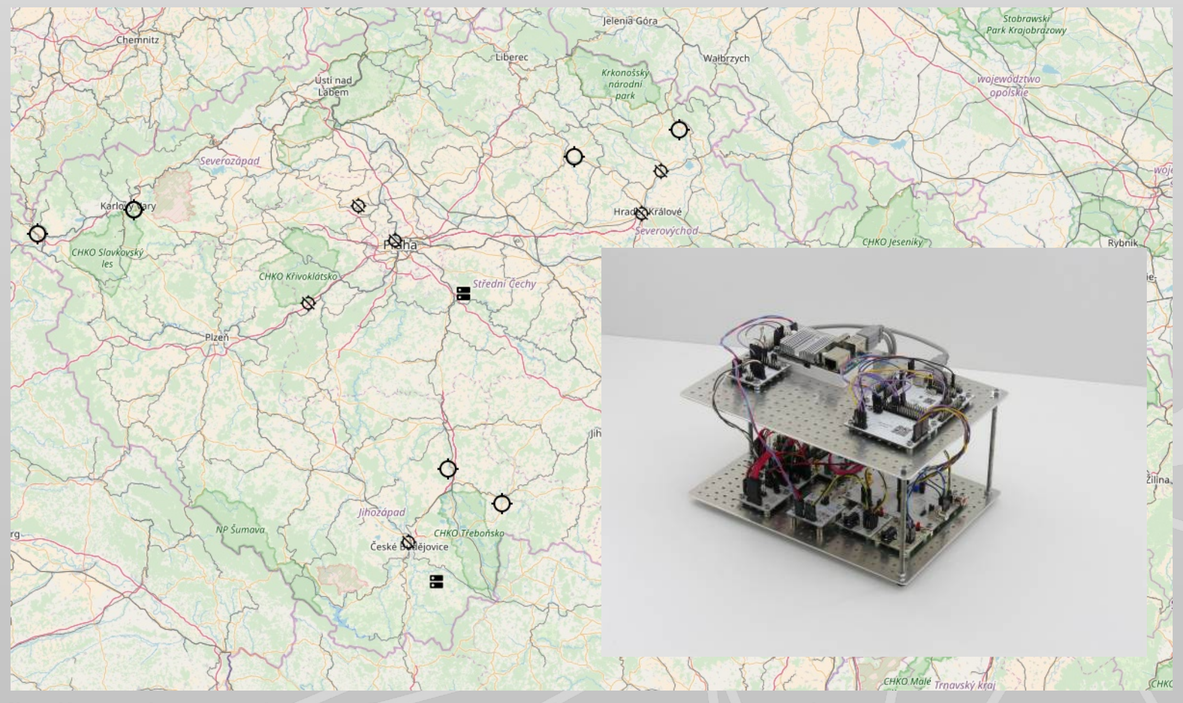
[2] Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic, **kakonjak@fel.cvut.cz**

Follow us

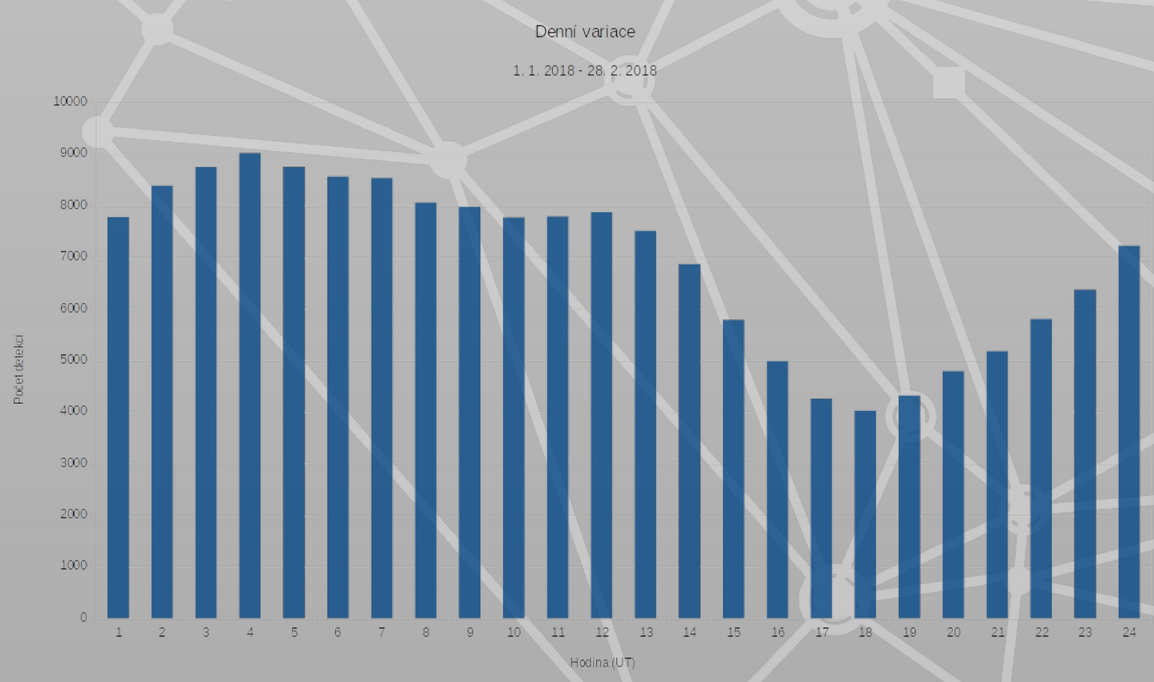
Bolidozor

Bolidozor network

The Bolidozor is the network of 9 radio meteor detection stations distributed over central Europe. The network has been working for ** years, and every year it is improved. This poster should summary state of the Bolidozor network and show new tools developed for the network last year.

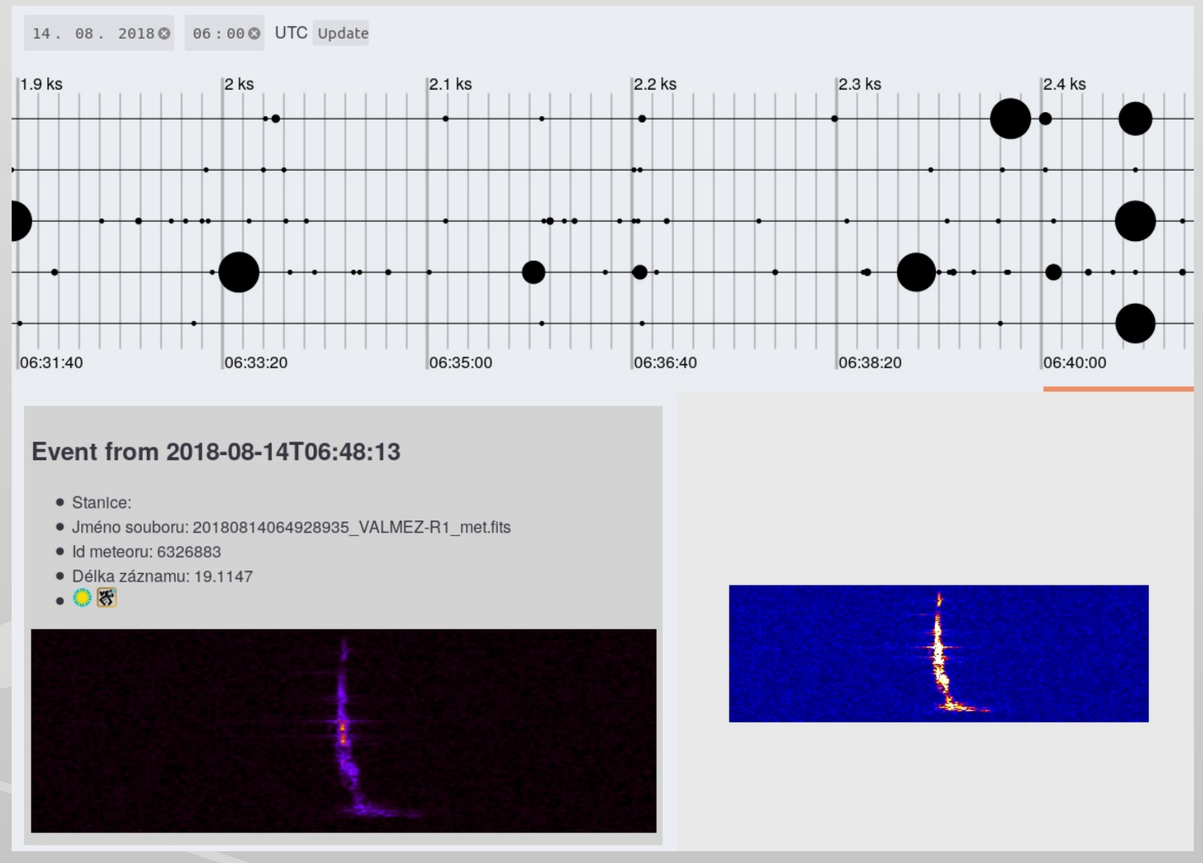


Radio observation of meteor has several advantages over video observation. Radio observation is independent on weather and daytime. Even highest meteor intensity is at morning when video cameras are powered down due to high daylight. The main disadvantage of radio observation is difficult trajectory determination which is the aim of the Bolidozor project.



Detection stations are build up from modules from MLAB eletronic laboratory, which where designed for that purpose. Thanks to that, the station produces high quality data and they can be upgraded without necesseity to change whole station hardware. For realtime detection and data recording, stations uses one-board ARM computer. Recorded data are immedeatly uploaded to common data storage server. Accurate time is ensured by mixing time pulse from GPS directly to radio signal captured by AD convertor.

TimeLine



New visualisation tool 'TimeLine' was deveolped for simple searching of corresponding radio-meteor from optical observations. This representation contains several rows, lines. Every line represents one detection station and at corresponding input are dots, that represents detection of meteor. Size of dot express the duration of the event and the position on line express time of event. Hovering mouse over meteor dot shows more parameters about the event and meteor preview.

Feature ideas

Because in signal processing is many things, that can be difficult to detect automatically, we have prepared Citizen-science project - BolidozorZoo. This project involves wide public in classifying scientific data from the Bolidozor network.

Citizen-science project is divided into several parts - applications. Every application is classifying different parameters of radio-meteor records. Two apps are expected from the beginning.

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

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