

Observations at the Station PPCI in 2019-2022 and Identification of the Sources

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Infrasound station PPCI (50.53°N 14.57°E) from the Czech microbarograph network, C9 (<https://doi.org/10.7914/SN/C9>) is integrated in the Central and Eastern European Infrasound Network (CEEIN, www.ceein.eu). A correct evaluation of detections on the station level is essential for network data processing and localization and identification of events. To improve the knowledge of the infrasound environment of the station we performed a study focused on identification of potential infrasound sources observed at PPCI and on seasonality of the detections.

North-west arrivals prevail in all seasons of the year. Near 0.2 Hz the north-west arrivals are dominated by microbaroms from the North Atlantic, source at 1 Hz and higher can be large offshore wind farms in the North Sea. In summer, signals of long duration and low amplitudes from the south-east are regularly observed. Potential sources of these signals are oil refineries Bratislava (Slovakia), Schwechat (Austria), and Százhalombatta (Hungary). PPCI regularly registers North Sea sonic booms in winter and sonic booms arriving from the Aegean Sea in summer. Local sources, up to the distance of 50 km include mainly mining activities.

E-mail

tersin@ufa.cas.cz

Promotional text

The study contributes to knowledge of infrasound sources observable in Central Europe and identifies local signal sources. The gained knowledge can be utilized in data processing on the network level and also in prospective studies on infrasound propagation.

Oral preference format

Primary author: SINDELAROVA, Tereza (The Czech Academy of Sciences, Institute of Atmospheric Physics)

Co-authors: CZANIK, Csenge (Research Centre for Astronomy and Earth Sciences (ELKH)); Mr BONDAR, Istvan (Research Centre for Astronomy and Earth Sciences (ELKH)); Mr BAŠE, Jiří (The Czech Academy of Sciences, Institute of Atmospheric Physics); Dr PODOLSKÁ, Kateřina (The Czech Academy of Sciences, Institute of Atmospheric Physics); Mr PÁSZTOR, Marcell (ELTE Eötvös Loránd University, Institute of Geography and Earth Sciences); Dr KOZUBEK, Michal (The Czech Academy of Sciences, Institute of Atmospheric Physics)

Presenter: SINDELAROVA, Tereza (The Czech Academy of Sciences, Institute of Atmospheric Physics)

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