

EGU2020-5097

<https://doi.org/10.5194/egusphere-egu2020-5097>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



## Pomeranian Bolide

**Helena Ciechowska**, Aleksandra Fronczak, Maciej Karasewicz, Klaudia Mocek, Mikołaj Zawadzki, and Marek Grad

University of Warsaw, Institute of Geophysics, Poland (Sekretariat.IGF@fuw.edu.pl)

October 31st of 2015 the bolide lightened up the sky above Northern Poland. The main purpose of the project was to define the place and time of its explosion in Earth's atmosphere. To calculate these values and define the velocity of acoustic wave in the air, MATLAB model has been created. The model was based on seismic records of the event from GKP permanent seismological station and few stations of temporary array 13 BB star, arrival time of the wave to each station was read from seismograms. Using this data it was possible to indicate the narrowed area on plane where the explosion could take place. Next step was to model elevated point of explosion, time of the explosion, and the velocity of sonic wave in Earth's atmosphere for spherical Earth 3D model, needed for the wave to travel from the point of explosion to seismological station.