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Seismoacoustic measurements of surface explosions in Sweden

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Seismoacoustic measurements of surface explosions in Sweden are presented. In northern Sweden, near Kiruna, three explosions at one tone each were carried out in August 2020. Further, during 2019, a single considerably larger explosion took place in mid Sweden. For all explosions, seismic and infrasound measurements were made with both temporary and permanent stations in IMS as well as national networks. Scalings were successfully made for sound pressure level as a function of yield and distance together with local magnitude as a function of yield. The combined measurements allow for a characterization of the explosions both in terms of yield as well as type of detonation (underground, surface or airburst). Finally, we also present a calibration of a local magnitude scale for northern Sweden that was needed in order to correctly characterize the explosions near Kiruna.

Promotional text

Seismoacoustic measurements were made from four large surface explosions in Sweden.

Primary authors: Mr HELLESEN, Carl Fredrik (Swedish Defence Research Agency (FOI), Stockholm, Sweden); Mr KVÆRNA, Tormod (Norwegian Seismic Array (NORSAR), Kjeller, Norway); Mr PERSSON, Leif K.G. (Swedish Defence Research Agency (FOI), Stockholm, Sweden); Mr STOKKAN, Sindre (Norwegian Seismic Array (NORSAR), Kjeller, Norway)

Presenter: Mr HELLESEN, Carl Fredrik (Swedish Defence Research Agency (FOI), Stockholm, Sweden)

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