

EGU21-8343

<https://doi.org/10.5194/egusphere-egu21-8343>

EGU General Assembly 2021

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## Near and far-field seismo-acoustic analysis of mb 4.9 mining induced earthquake nearby Kiruna, Sweden

**Antoine Turquet**<sup>1</sup>, Quentin Brissaud<sup>1</sup>, Sven Peter Näsholm<sup>1,2</sup>, Johan Kero<sup>3</sup>, Tormod Kværna<sup>1</sup>, Constantino Listowski<sup>4</sup>, and Alexis Le Pichon<sup>4</sup>

<sup>1</sup>NORSAR, Infrasound, Kjeller, Norway (antoine.turquet@norsar.no)

<sup>2</sup>Department of Informatics, University of Oslo, Oslo, Norway

<sup>3</sup>Swedish Institute of Space Physics, Kiruna, Sweden

<sup>4</sup>CEA, DAM, DIF, F-91680 Arpajon, France

An earthquake happened in 18 May 2020 early morning in the Kiruna underground iron ore mine, Northern Sweden having a magnitude Mw 4.9. Following the earthquake, the mine was immediately evacuated because of the risk of aftershocks. This event is the largest mining-induced earthquake that has ever taken place in Scandinavia and it produced signals recorded by three infrasound arrays at distances of 7 km (KRIS, Sweden), 155 km (IS37, Norway) and 286 km (ARCI, Norway). We explore seismo-acoustic features of this event recorded in near and far-field. This procedure allows us to track how the signal propagated in the solid earth until the seismometers located at various distances or transmitted to the atmosphere and propagated further to the infrasound stations. Our study also provides a detailed comparison between observed and predicted wave front characteristics at the arrays. We conduct a comparison of amplitude corrected for propagation effect versus magnitude and ground shaking amplitude. These results show that this mine-quake having “unconventional” source mechanism generated infrasound recorded up to ~300 km and provided ground shaking information as well as local amplification caused by topographic and geological features.