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| **IDENTIFICATION OF BOLIDES INFRASOUND SIGNAL USING SOUTH AMERICAN IMS INFRASOUND STATIONS** Arthur Siqueira de Macêdo¹, Brandow Lee Neri¹, Leticia Guedes Assumção¹, Lucas Vieira Barros¹, ¹Observatório Sismológico da Universidade de Brasília.Copyright 2021, SBGf - Sociedade Brasileira de Geofísica.This paper was prepared for presentation during the 17th International Congress of the Brazilian Geophysical Society held in Rio de Janeiro, Brazil, 8-11 November 2021 (Online Event). Contents of this paper were reviewed by the Technical Committee of the 17th International Congress of the Brazilian Geophysical Society and do not necessarily represent any position of the SBGf, its officers or members. Electronic reproduction or storage of any part of this paper for commercial purposes without the written consent of the Brazilian Geophysical Society is prohibited. |

# It is evident that the trigger for the emergence of studies on the phenomenon of infrasound occurred, at first, with the observations of waves generated by the explosive eruption of the volcano Krakatoa, in Indonesia, in 1883, and by the explosion of a meteor, Tunguska, in Siberia in 1908. The sound waves from these events were recorded by the microbarographic of meteorological stations in several countries and, in both cases, these waves took more than one turn around the earth. After the implementation of the International Monitoring System, to verify compliance with the Comprehensive Nuclear-Test-Ban Treaty (CTBT) there was a considerable increase in research on infrasonic technology. Part of the infrasonic research takes place by monitoring natural and anthropogenic sources, such as detonations in mining, earthquakes, auroras, microbarons, severe weather events. Among those sources the most studied being volcanic eruptions and the entry of bodies celestial in the atmosphere, as do Krakatoa and Tunguska. One of the most unusual infrasound natural sources, but constant is that interplanetary debris, or meteoroids, which collide with the Earth's atmosphere at hypersonic speeds, in a process commonly known as a "meteor". The South American infrasound observation network is composed of eight stations: I01AR, I02AR, I08BO, I09BR, I13CL, I14CL, I20EC, and I41PY. Such stations are located both on the continent - as It is the case of the Brazilian station located in the Brasília National Park - and on islands - as It is the case of the Ecuadorian station located in the Galápagos archipelago. To improve this network, reducing the azimuth gap, there are still two stations on British islands in the Atlantic Ocean: I50GB and I51GB. In addition to the French island in the Caribbean: I25FR. To understand the entry of bolides into the atmosphere, the CNEOS catalog (Center of Near-Earth Object Studies) was used, which refers to all entries into the Earth's atmosphere detected by NASA sensors (National Aeronautics and Space Administration). Then it is essential to identify the relationship between the entry of the bolides into the Earth’s atmosphere and the signal detected by the mentioned infrasound stations. This work aims to this.