

EGU21-1724, updated on 18 May 2021

<https://doi.org/10.5194/egusphere-egu21-1724>

EGU General Assembly 2021

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



Catalog of TGEs observed at Aragats during 2008-2020

Davit Aslanyan, Ashot Chilingarian, Tigran Karapetyan, and Gagik Hovsepyan

Yerevan Physics Institute, Cosmic Ray Division, Yerevan, Armenia (davitaslanian@gmail.com)

For 12 years we monitored particle fluxes on Mt. Aragats 7/24 and discovered the most powerful natural electron accelerator operated in the thunderclouds. This natural electron accelerator provided more than 450 Thunderstorm Ground enhancement events (TGEs). We make exhausting analysis of these events and will present yearly and monthly distributions, as well the day hour distributions. Also, we will present the distribution of the outside temperature and precipitation occurrences which are correlated with particle fluxes. We address questions about TGE evolution and atmospheric conditions supporting the origination of the relativistic runaway electron avalanches and demonstrate the relativistic runaway electron avalanche is possible on Aragats only in Spring-Autumn seasons.