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Radar Detection of High Energy Cosmic Ray Showers ABAZ KRYEMADHI, Messiah College, MICHAEL BAKUNOV, University of Nizhny Novgorod, ALEX MASLOV, Canon USA, ALINA NOVOKOVSKAYA, University of Nizhny Novgorod — The radar detection technique for High Energy Cosmic Ray Shower detection has been investigated in this collaborative work. High Energy Cosmic Ray Showers produce disk-like ionization front which moves with relativistic speed in our atmosphere. We study the reflection of radio waves such as the ones from commercial radio and TV stations from the relativistic moving front. The reflected wave experiences a high blue-shift in frequency due to relativistic Doppler Effect. The feasibility study of detection of showers via this method and the benefits will be presented.

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