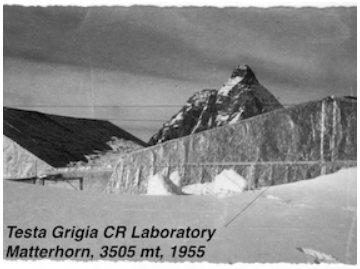

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Improving reconstruction methods for radio measurements with Tunka-Rex

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Tunka-Rex is detector for radio emission produced by cosmic-ray air-showers located in Siberia, triggered by Tunka-133, a co-located air-Cherenkov detector during night, and by the scintillator array Tunka-Grande during day. Tunka-Rex has demonstrated that the radio technique can provide a cost-effective extension of existing air-shower arrays. Operating in the frequency range of 30-80 MHz, Tunka-Rex is limited by the galactic background, and suffers from local radio interferences. We investigate possibilities for improving the reconstruction of measured radio events using different approaches. Sophisticated methods for signal selection and background suppression on the channel level will be combined to multivariate methods. For high-level rejection of false positive detections, a global fit including timing as well as amplitude information is used. In the present work we report on the latest results of this study and the achievable improvement for the reconstruction of air-shower parameters.

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