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## Results and Perspectives of the Tunka Experiments for Cosmic Ray Study.

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The experimental data of Tunka-133 obtained during 5 years of observation and preliminary data from the Tunka-HiSCORE prototype array with its first 9 stations allowed a study of primary cosmic rays in the wide energy range  $3 \times 10^{14} - 10^{18}$  eV.

Reconstruction of the depth-of-shower maximum  $X_{\max}$  by an analysis of the Cherenkov light lateral distribution and the pulse width provides a reliable estimation of the energy dependence of the mean logarithmic mass in the energy range  $10^{16} - 10^{18}$  eV.

Further mass composition analyses at the knee energy range will be based on the data of the new version of the Tunka-HiSCORE prototype, consisting of 28 stations. The mass composition analysis at the highest energies ( $10^{17} - 10^{18}$  eV) will be based on the comparison of the primary energy measured by the radio method with the flux of charged particles on ground. The high duty cycle of the common operation of the new scintillation array (Tunka-Grande) and the radio extension of the experiment (Tunka-Rex) will provide a high statistics of events.

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