

# Construction and prototype modules testing of HT-KZ Ultra-high energy cosmic rays detector system for cosmic rays with energies above $10^{17}$ eV

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The HT-KZ is an ultra-high energy cosmic rays detector system that is currently under construction at Nazarbayev University (NU), Kazakhstan. It is designed to study the spatial and temporal structure of Extensive Air Showers with the energy of the primary above  $\sim 10^{17}$  eV, and with high time resolution of the shower disk profile and timing synchronization between the detection points (both  $\sim 1$  ns). Detector system construction at NU is conducted in collaboration with the Tien Shan high-altitude Science Station (TSHSS).

Based on computer simulations, several prototype designs were created, constructed and tested. This poster will present the design features and testing data from prototype modules currently in operation at NU.

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