

# Estimation of Aperture of the Tunka-Rex Radio Array for Cosmic-Ray Air-Shower Measurements

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## Executive Summary

### What is this contribution about?

A new probabilistic semi-analytical model of aperture calculation for a radio array.

### Why is it relevant / interesting?

The model provides a useful tool for estimation of radio array's aperture, which is one of the key components for reconstruction of the cosmic-ray energy spectrum and the mass composition.

### What have we done?

We built a model for evaluating aperture of a radio array. The model consists of two components: probabilistic model of detection efficiency and semi-analytical approach to integral estimation.

### What is the result?

The new model that allows for studying efficiency and aperture of a cosmic-ray radio array on air-shower's energy and depth of its maximum.

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