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Status and commissioning of the Karlsruhe Tritium Neutrino Experiment KATRIN

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Neutrino properties and especially the determination of the neutrino mass play an important role at the intersections of cosmology, particle physics and astroparticle physics.

The Karlsruhe TRItium Neutrino experiment (KATRIN) investigates single beta decay electrons close to their kinematic endpoint in order to determine the neutrino mass by a model-independent method.

Applying an ultra-luminous molecular windowless gaseous tritium source and an integrating high-resolution spectrometer of MAC-E filter type, KATRIN allows beta spectroscopy close to the kinematic endpoint with unprecedented precision and will reach a sensitivity of 200 meV/c² (90% C.L.) on the neutrino mass.

This talk will give an overview about the present status and the recent progress of the major components.

Since the commissioning of the main spectrometer has been started end of 2012, the focus will be on first measurement results in combination with an angular resolving electron gun and the detector section.

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