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JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



THEP Journal Club

May 24, 2019 at 1 p.m.
Minkowski Raum, Staudinger Weg 7, 05-119

Pizza & Physics at Lunchtime

Katsuki Hiraide
ICRR and U. of Tokyo

Recent results from the XMASS experiment

Although there are substantial astronomical observations which support the existence of dark matter in the Universe, its identity is still unknown. The most plausible candidate of dark matter is thought to be weakly interacting massive particles (WIMPs). Therefore, direct detection of dark matter would be of importance in both astrophysics and particle physics. XMASS is a large-volume single-phase liquid xenon scintillation detector located in the Kamioka underground laboratory in Japan and has stably taken data for more than five years. With these long-term data, we have conducted a search for annual modulation caused by dark matter as well as searches for various types of dark matter particles and interactions. XMASS has also challenged various research topics in particle and astroparticle physics. In this talk, recent results from XMASS will be presented.

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