

## The 3.5 keV dark matter candidate line in the Galactic bulge region

*Tuesday, 4 December 2018 15:20 (20 minutes)*

The 3.5 keV line, discovered in early 2014 in the spectra of different cosmic objects, draws large attention as being the dark matter signal candidate. Much effort was performed since then to determine its nature. The one conclusion to point out is that the dark matter signal is by now the only explanation consistent with all the observational data available.

We are presenting the detection of the 3.5 keV line in the stacked spectra of the XMM-Newton observation of the Galactic bulge region. The line was detected significantly in the several annulus regions around Galactic center. Being interpreted as dark matter decay line, this allows us to determine the inner halo profile slope. We also briefly discuss the perspectives of the planned experiments in frames of our restrictions on signal parameters.

**Primary author:** SAVCHENKO, Denys (Bogolyubov Institute for Theoretical Physics of the NAS of Ukraine)

**Co-author:** Dr IAKUBOVSKYI, Dmytro (Bogolyubov Institute for Theoretical Physics, Kyiv, Ukraine and Discovery Center, Niels Bohr Institute, Copenhagen, Denmark)

**Presenter:** SAVCHENKO, Denys (Bogolyubov Institute for Theoretical Physics of the NAS of Ukraine)

**Session Classification:** Astrophysics and Cosmology

**Track Classification:** Astrophysics and Cosmology