



**HEP 2013
Stockholm
18-24 July 2013**



Contribution ID: 911

Type: **Talk presentation**

Cosmology and particle physics beyond Higgs boson

Friday, 19 July 2013 11:45 (45 minutes)

If LHC finds no signatures of new physics (thus confirming the Standard Model) the necessity to explain the observed beyond-the-Standard-Model (BSM) phenomena, in particular neutrino masses, Dark Matter and matter-antimatter asymmetry of the Universe, should largely shape the further development of particle physics. I will describe a unique testable approach that provides the resolution of all these BSM problems. I will outline an experimental programme (combination of accelerator searches for new particles with high intensity proton beams and an X-ray cosmic mission) that is capable of discovering the particles responsible for all three mentioned major BSM phenomena, determining their properties and having non-trivial cross-check between accelerator and cosmic experiments. In the case of negative result the proposed program will rule out the whole model completely.

Primary author: RUCHAYSKIY, Oleg (EPFL)

Presenter: RUCHAYSKIY, Oleg (EPFL)

Session Classification: Cosmology and Gravity

Track Classification: Cosmology and Gravity