Contribution ID: **21** Type: **5 min talk**

Majoron as a simultaneous origin of baryogenesis and dark matter

Tuesday, 17 September 2024 17:00 (5 minutes)

We propose a scenario where baryon asymmetry is generated spontaneously by the majoron which is also a dark matter candidate. For this, we investigate two distinct scenarios depending on the source of the majoron kinetic motion providing CPV in the background : 1) the misalignment mechanism, and 2) the kinetic misalignment mechanism. The former case can be realized in a very limited parameter space of the majoron mass ~ eV and decay constant ~ 10^6 GeV with an appropriate symmetry non-resotration at high temperatures. The later scenario works successfully for the majoron mass lower than 100 keV, and the seesaw scale below 10^9 GeV. It can be even below the temperature of the electroweak phase transition as long as sufficiently large kinetic misalignment is provided.

Primary author: Prof. CHUN, Eung Jin Chun (Korea Institute for Advanced Study)

Presenter: Prof. CHUN, Eung Jin Chun (Korea Institute for Advanced Study)

Session Classification: Afternoon 2