



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  $\sim eV$  and decay constant  $\sim 10^6 GeV$  with an appropriate symmetry non-restoration 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