

Enhancing prospects of sub-GeV majoron at intensity frontier experiments through flavor-changing processes

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Majoron (J) is a feebly-interacting axion-like particle that can realize type-I seesaw mechanism, which also leads to flavor violating processes (FVP). We revisit prospects of sub-GeV majoron at intensity frontier experiments. We show that FVP allow to probe the majoron mass region ~ 100 MeV to 1 GeV, complementary to astrophysical bounds and dedicated experiments probing FVP. We also study muon-beam experiments, where for the majoron lighter than muon, the $\mu \rightarrow e + J$ decays can put limits competitive with those set by supernovae.

Primary author: JODLOWSKI, Krzysztof (IBS CTPU-PTC)

Presenter: JODLOWSKI, Krzysztof (IBS CTPU-PTC)

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