Contribution ID: **105** Type: **Poster model building**

Roles of Peccei-Quinn symmetry in an effective model for dark matter and neutrino mass

Strong CP problem is known to be solved by imposing Peccei-Quinn symmetry. However, domain wall problem could make models invalid in many cases. We propose a model in which the PQ charge is assigned quarks so as to escape this problem. In the effective model resulting after the PQ symmetry breaking, both the quark mass hierarchy and the
CKM mixing could be explained through Froggatt-Nielsen mechanism. If the model is combined with the lepton sector supplemented by an inert doublet scalar and right-handed neutrinos, the effective model reduces to the scotogenic neutrino mass model in which both the origin of neutrino masses and dark matter are closely related. The strong CP problem could be related to the quark mass hierarchy, neutrino masses and
dark matter through the PQ symmetry in this model.

Session and Location

Wednesday Session, Poster Wall #143 (Hölderlin-Room)

Poster included in proceedings:

yes

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Track Classification: Poster (not participating in poster prize competition)