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Probing doubly charged scalar bosons from the doublet at hadron colliders

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In various models beyond the standard model, the Higgs sector is extended, and some new scalar bosons are introduced. One of the interesting candidates is the doubly charged scalar boson from the isospin doublet with $Y=3/2$. It is often introduced in models for the radiative generation of the neutrino mass. However, its phenomenology had not been fully investigated. We have investigated how to probe them at the future HL-LHC. We have found that it would be possible to observe the signal of the doubly charged scalars by using appropriate kinematical cuts unless their masses are too large. In this talk, I will introduce the results of our analyses. This talk is based on K. Enomoto, S. Kanemura, K. Katayama, Phys. Rev. D104 (2021) 3, 035040.

In-person participation

Yes

Primary authors: ENOMOTO, Kazuki (U. Tokyo); KATAYAMA, Kento (Osaka University); KANEMURA, Shinya (Osaka University)

Presenter: ENOMOTO, Kazuki (U. Tokyo)

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