



Contribution ID: 38

Type: Talk

## $\mathcal{Z}_N \times \mathcal{Z}_M$ Flavour Symmetry

The  $\mathcal{Z}_N \times \mathcal{Z}_M$  symmetry is a novel flavour symmetry, that can provide an explanation to the flavour structure of the Standard Model through the Froggatt-Nielsen mechanism. We have investigated the flavour bounds on the minimal  $\mathcal{Z}_2 \times \mathcal{Z}_5$ , and a non-minimal  $\mathcal{Z}_2 \times \mathcal{Z}_9$  version of this symmetry using the current quark and lepton flavour physics data as well as the future projected sensitivities of the quark and lepton flavour effects. It turns out that the future high-luminosity phase-I and II of the LHCb are going to play a crucial role in constraining the parameters of the minimal and the non-minimal  $\mathcal{Z}_2 \times \mathcal{Z}_N$  flavour symmetries.

### Designation

Student

### Reference publication/preprint

<https://doi.org/10.1140/epjc/s10052-023-11471-5>

### Institution

Indian Institute of Technology, BHU, Varanasi

**Author:** Ms SINGH, Neelam (Indian Institute of Technology, BHU, Varanasi)

**Co-authors:** Mr ABBAS, Gauhar (Indian Institute of Technology, BHU, Varanasi); Ms SINGH, Vartika (Indian Institute of Technology, BHU, Varanasi); Ms SAIN, Ria (Indian Institute of Technology Guwahati, Guwahati)

**Presenter:** Ms SINGH, Neelam (Indian Institute of Technology, BHU, Varanasi)

**Session Classification:** Parallel : Collider + BSM