Contribution ID: **15**   Type: **not specified**

Non-abelian Embeddings of the Standard Model Group and charge quantisation

In this talk, I will show a novel minimal non-abelian gauge group to embed the G_{SM}/Z1 quotient with fractionally charged beyond the standard model matter fields and show how we can define a new quantum number n_6 that is written in terms of the generators of G_{SM}. We also comment on interesting aspects of this new number, like how the degree of compositeness can shift n_6. This new quantum number we suggest can give a full spectrum of allowed electric and magnetic charges and has an important connection to the topology of the standard model gauge group. I will also present results from ultra high energy cosmic ray simulations for magnetic monopoles of different magnetic charges as predicted by each quotient group of the SM.

Authors: Ms DEMAKOU, Desponia (IPPP, Durham); Prof. ALONSO, Rodrigo (IPPP, Durham); Prof. KHOZE, Valentin (IPPP, Durham); HA, Yunji (IPPP, Durham)

Presenter: HA, Yunji (IPPP, Durham)