Contribution ID: **9** Type: **not specified**

Di-photon resonance and Dark Matter as heavy pions

Thursday, 19 May 2016 16:20 (20 minutes)

Vectorlike Confinement is one of the simplest and most plausible scenarios for new physics beyond the SM, obtained by adding new fermions in vectorlike representations of the SM gauge group, with a mass scale possibly accessible at the LHC. These fermions are charged under a new gauge strong interaction that confines without breaking the SM gauge symmetry. The new physics is not related to the electroweak scale and is not constrained by electroweak precision tests and flavor physics.
The phenomenology of Vectorlike Confinement theories is very rich and can give rise to good Dark Matter candidates as well as to a scalar that could fit the di-photon excess that appeared in the Run-2 LHC data.
Assuming that the di-photon excess at 750 GeV is true, I will discuss models where both the Dark Matter and the di-photon candidates are given by techni-pions with typical mass below the TeV.

Primary authors: Mr STRUMIA, Alessandro (Università di Pisa, CERN); Mr TESI, Andrea (University of Chicago); Mrs VIGIANI, Elena (Università di Pisa); Mr REDI, Michele (INFN Firenze)

Presenter: Mrs VIGIANI, Elena (Università di Pisa)

Session Classification: Parallel Session 19 pm1