## Workshop for young scientists with research interests focused on physics at FAIR



Contribution ID: 27

Type: not specified

## A Three-Flavor Chiral Effective Model with Four Baryonic Multiplets within the Mirror Assignment

Tuesday, 16 February 2016 18:25 (25 minutes)

In the framework of the extended Linear Sigma Model we study four baryonic multiplets introduced via the mirror assignment, which allows chirally invariant mass terms. We first investigate formal features of a three-flavor treatment of the problem and then study the reduction to the two flavor case. In the latter, four baryonic doublets are present: the nucleon N(939) and the Roper N(1440) with positive parity, as well as the resonances N(1535) and N(1650) with negative parity. We determine the parameters of the model via a fit to known masses and decay properties of the aforementioned states, showing a good agreement of theory with data.

Primary author: OLBRICH, Lisa (german)

**Co-authors:** Prof. RISCHKE, Dirk (Goethe University); Dr GIACOSA, Francesco (Frankfurt University); Dr ZÉTÉNYI, Miklós (Wigner Research Center of Budapest)

**Presenter:** OLBRICH, Lisa (german)

Session Classification: Talks