Scalars 2017

Contribution ID : 24

CP4 miracle: Yukawa sector from CP symmetry of order 4

Sunday 03 Dec 2017 at 15:00 (00h30')

Content :

We explore the phenomenology of a unique three-Higgs-doublet model based on the single CP symmetry of order 4 (CP4) without any accidental symmetries. The CP4 symmetry is imposed on the scalar potential and Yukawa interactions, strongly shaping both sectors of the model and leading to a very characteristic phenomenology. Although the model is very constrained by CP4, we find points in the parameter space which comply with the electroweak precision data and the SM-like 125 GeV Higgs boson properties, and reproduce all fermion masses, mixing, CP violation, and K and B meson oscillation parameters.

Primary authors : IVANOV, Igor (CFTP, IST, Lisbon)

Co-authors : Dr. FERREIRA, Pedro (ISEL and CFTC, UL) ; Dr. PASECHNIK, Roman (Lund University) ; Dr. SERODIO, Hugo (Lund University) ; Dr. JIMENEZ, Enrique (Universidad de Colima, Mexico)

Presenter : IVANOV, Igor (CFTP, IST, Lisbon)

Session classification : session 13

Track classification : --not yet classified--

Type : --not specified--