

A Skyrme force for all known Ξ^- – hypernuclei

Monday 27 June 2022 15:10 (20 minutes)

Recent experimental results for the cascade hypernucleus $^{15}_{\Xi}C$ ($^{14}N+\Xi^-$) are analyzed together with data for $^{12}_{\Xi}Be$ and $^{13}_{\Xi}B$ within a Skyrme-Hartree-Fock theoretical approach. Optimal Skyrme parameters are determined for a consistent description of the KISO, IBUKI, KINKA, BNL-E885, BNL-E906, KEK-E224, and KEK-E176 data regarding these nuclei. The important role of deformation for $^{13}_{\Xi}B$ is pointed out. The shape of the Ξ^- mean field in $^{12}_{\Xi}Be$ is analyzed in some detail.

Authors: Ms GUO, Jing (ECNU Shanghai); Dr SCHULZE, Hans-Josef (INFN Catania); ZHOU, Xian-Rong (East China Normal University)

Presenter: Dr SCHULZE, Hans-Josef (INFN Catania)

Session Classification: 1; Mon-III