Abstract Submitted
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Multiple Octupole-Band Structures in ^{238}U[1] SHAOFEI ZHU, Argonne National Laboratory, R.V.F. JANSSENS, M.P. CARPENTER, T.L. KHOO, F.G. KNODEV, T. LAURITSEN, C.J. LISTER, D. SEWERYNIAK, Argonne National Laboratory — An experiment with a ^{207}Pb beam (1400 MeV) has been carried out on a thick ^{238}U target at Gammasphere. The level scheme of the ^{238}U has been extended significantly. The signature-partner bands of the known K=1 and K=2 octople bands were uncovered for the first time, in addition to another newly observed postive-parity band. This band decays to all the K=0, 1 and 2 octuple bands with an intensity much stronger than that observed for the deexcitation to the ground-state band. Its most important features can be related to a double octuple phonon excitation. The comparison between this band and a similar one in ^{240}Pu [1] sheds more light on the recently proposed concept of octuple phonon condensation [2].

[1] X. Wang et al., Phys. Rev. Lett. 102, 122501(2009).
[2] S. Frauendorf, Phys. Rev. C 77, 021304(R)(2008)

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Shaofei Zhu
Argonne National Laboratory

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