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Experimental evidence of confinement resonances in the photoionisation of the endohedral Xe@C_{60}^{+} D. KILCOYNE, A. AGUILAR, Advanced Light Source, Lawrence Berkeley National Laboratory, A. MÜLLER, S. SCHIPPERS, IAMP, Justus-Liebig-Universitaet Giessen, Germany, C. CISNEROS, Instituto de Ciencias Fisicas UNAM, Mexico, G. ALNA'WASHI, The Hashemite University, Jordan, N. ARYAL, K. BARAL, D. ESTEVES, C. THOMAS, R. PHANEUF, Department of Physics, University of Nevada, Reno, USA — A recent communication [1] presented experimental evidence of confinement resonances associated with the photoabsorption by a noble gas atom in a C_{60} cage. The giant 4d resonance in the photoionization of Xe is predicted to be modulated into four components when the Xe atom is confined within C_{60} due to multi-path interference of photoelectron waves caused by reflection from the C_{60} cage. The measurements were performed in the photon energy range 60 - 150 eV by merging a beam of synchrotron radiation with a mass/charge selected ion beam current at a fraction of a picoampere, of the endohedral. The phenomenon was observed in the cross section for double photoionization of Xe@C_{60}^{+} accompanied by fragmentation of two carbon atoms, yielding Xe@C_{58}^{3+} product ions. This research was supported by the Division of Chemical Sciences, Geosciences and Biosciences of the U.S. Department of Energy, the Deutsche Forschungsgemenischaft, Germany and CONACYT-82521, México.[1] A.L.D. Kilcoyne et al., Phys. Rev. Lett. 105, 213001 (2010)

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