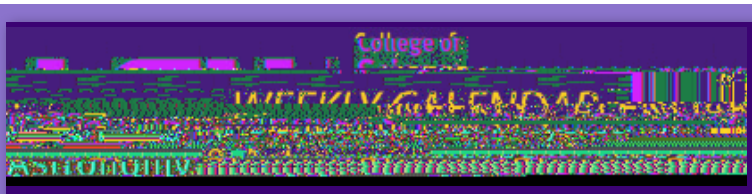

202 Nicholson Hall
Louisiana State University
Baton Rouge, LA 70803
TEL: 225-578-2261
FAX: 225-578-5855
http://www.phys.lsu.edu

, 2016

LSU Physics Astronomy in th N ws

The LIGO Scientific Collaboration and the Virgo collaboration identify a second gravitational wave event in the data from Advanced LIGO detectors. On December 26, 2015 at 03:38:53 UTC, scientists observed gravitational waves-ripples in the fabric of spacetime-for the second time. The gravitational waves were detected by both of the twin Laser Interferometer Gravitational-Wave Observatory (LIGO) detectors, located in Livingston, Louisiana, and Hanford, Washington, USA.
http://www.lsu.edu/physics/news/2016/06/2nd_gravitational_waves_detected.php

Physical Review Letters paper: GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence

Extreme light from frozen argon: LSU physicists **Mette Gaarde**

Yin Wang, **Feng Pan**, **Kristina D. Launey**, Yan-An Luo, and **J. P. Draayer**, "Angular momentumprojection for a Nilsson mean-field plus pairing model", Nucl. Phys. A 950 (2016) 1; doi:10.1016/j. nuclphysa. 2016.03.012. The paper explores the interplay of pairing and deformation in intermediate-mass nuclei based on a new method for restoring the rotational invariance of a general nuclear pairing-plus-deformation Hamiltonian. The pairing term is exactly solved by using the Richardson Gaudin methods, while the deformation enters through an axially deformed mean field of the Nilsson model. Such a general nuclear Hamiltonian breaks the rotational symmetry. To remedy this, we carry out an angular momentum projection for the intrinsic deformed Hamiltonian, which is then applied to low-lying states of good angular momentum. Applications to oxygen, neon, and magnesium isotopes demonstrate the suitability of the method.
http://www.sciencedirect.com/science/article/pii/S0375947416001809