

Abstract Submitted  
for the DNP06 Meeting of  
The American Physical Society

**Neutron transfer and flow in reactions between heavy neutron-rich nuclei.**<sup>1</sup> DAN SHAPIRA, FELIX J. LIANG, CARL J. GROSS, ROBERT L. VARNER, JAMES R. BEENE, Physics Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA. — Two Step WKB calculations of nucleus nucleus capture were carried out. In our calculations we investigate the possibility of enhanced capture cross sections for neutron rich heavy nuclei. The model calculation uses a systematic potential [1] that incorporates the effect of barrier distributions due to excitation and deformation in the entrance channel. Neutron transfer is treated in a semiclassical approximation [2][3]. The transfer form factor used in neutron transfer saturates at an internuclear distance where where neutron can flow freely between the two nuclear centers [4].

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[3] V. I. Zagrebaev Phys. Rev. **C7**, 061601R (2003).

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<sup>1</sup>This work was supported by the U. S. Department of Energy under contracts DE-AC05-00OR22725 with UT-Battelle, LLC.

Dan Shapira  
Physics Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831, USA

Date submitted: 30 Jun 2006

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