Abstract Submitted
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Fusion of ^{130}Te and ^{58,64}Ni near the Coulomb barrier[1] J.F. LIANG, J.M. ALLMOND, C.J. GROSS, K. LAGERGREN, P.E. MUELLER, D. SHAPIRA, R.L. VARNER, Physics Division, Oak Ridge National Laboratory — Large sub-barrier fusion enhancement has been observed in reactions where a large number of neutron transfer channels with positive Q-values exists. The fusion excitation functions for ^{130}Te on ^{58}Ni and ^{64}Ni have been measured. The slope of the fusion excitation function for ^{130}Te+^{58}Ni was found to be less steep than that for ^{130}Te+^{64}Ni in the sub-barrier region. This may be related to the fact that there are ten neutron transfer channels with positive Q-values in ^{130}Te+^{58}Ni. In contrast, ^{130}Te+^{64}Ni has only one neutron transfer channel with a positive Q-value. A comparison of the sub-barrier fusion enhancement and the number of neutron transfer channels with positive Q-values in other reactions will be presented.

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Junjien Liang
Physics Division, Oak Ridge National Laboratory

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