

Abstract Submitted
for the DNP07 Meeting of
The American Physical Society

Transition energy correlations in the three-body continuum of Borromean Halo Nuclei BORIS DANILIN, Kurchatov Institute, Moscow, Russia, JAN VAAGEN, TORBJOERN ROGDE, University of Bergen, Norway, SERGEY ERSHOV, JINR, Dubna, Russia, IAN THOMPSON, Lawrence Livermore National Laboratory, MIKHAIL ZHUKOV, Chalmers University of Technology, Sweden, RNBT COLLABORATION — Energy correlations in transitions from the bound state to the three-body continuum of Borromean halo nuclei are considered. A core+n+n three-body cluster model which reproduces experimentally known properties of ${}^6\text{He}$ and ${}^{11}\text{Li}$ has been used to study low-lying resonances and soft modes. The analysis of the correlated responses in ${}^6\text{He}$ shows that in the case of the narrow three-body 2_1^+ resonance the transition energy correlations are the same as in the intrinsic correlated structure in $3 \rightarrow 3$ scattering. They differ significantly for wide 2_2^+ , 1_1^+ resonances, and also for the soft dipole and monopole modes, where, due to the transition operators, the intertwining of the ground state and the three-body continuum plays a significant role.

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Date submitted: 02 Jul 2007

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