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Reaction Mechanisms for (d,p) on Exotic Nuclei NEIL SUMMERS, Rutgers University, FILOMENA NUNES, NSCL/MSU, IAN THOMPSON, Surrey University / LLNL — Transfer reactions are typically analyzed using DWBA reaction theory. The structure of the exotic nuclei of affects the (d,p) cross section through overlaps of the relevant many body wave functions. In standard DWBA theory this overlap is approximated by a single particle wave function, where the core is considered inert. Then the cross section is scaled by the spectroscopic factor. Transfer to excited states and even continuum states for weakly bound nuclei can also be considered. This "standard" reaction theory neglects many things. On top of multi-step effects which can be investigated using a coupled channels approach, the single particle nature of the final states and the assumption that the core is inert are two approximations that can now be examined using an extension of the coupled channels approach called XCDCC (eXtended Continuum Discretized Coupled Channels). We use XCDCC to study Be10(d,p)Be11 and Be11(p,d)Be10 reactions and the effects of couplings. We examine the continuum states of Be11 where we can now model resonances built on excited core components. We compare our results with various sets of data and draw general conclusion important for (p,d) and (d,p) reactions.

Neil Summers
Rutgers University

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