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Surrogate reactions on fission fragments for nuclear energy¹ R. HATARIK, J.A. CIZEWSKI, W.A. PETERS, Rutgers University, D.W. BAR-DAYAN, S.D. PAIN, Oak Ridge National Laboratory — Neutron capture cross sections on unstable nuclei are important for many applications in nuclear structure, astrophysics, for the advanced fuel cycle initiative and other applied programs. Measuring these cross sections directly is impossible for short lived species and theoretical calculations often do not have the required accuracy. An alternative approach is to measure the neutron transfer reaction $(d,p\gamma)$, which can be done using radioactive beams and CD_2 targets and has been demonstrated to be a surrogate for (n,γ) . This talk would present the status of $(d,p\gamma)$ measurements with radioactive ion beams and prospects for measurements with fission fragments.

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