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X-ray Burst Reaction Rate Sensitivities[1] RICHARD CYBURT, NSCL/MSU/JINA — Nuclear experimental efforts today are largely driven by the nuclear astrophysics involving exotic nuclei, either on the neutron rich side of stability (r-process) or on the proton rich side of stability (rp-process). In this talk I will discuss the unstable hydrogen and helium burning on the surfaces of neutron stars (rp-process), resulting in Type I X-ray bursts seen by observers. I will present how we ascertain the importance of nuclear reactions in these scenarios and how their variation impacts the X-ray light curves. In the end, this will guide us to where experiment can improve our understanding of these burst events and eventually allow us to constrain neutron star physics.

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Richard Cyburt
NSCL/MSU/JINA

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