

Abstract Submitted
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Neutron unbound resonances cataloged by isotope and invariant mass measurements for nuclei $Z=1-12$ ELIZABETH HAVENS, JOSEPH FINCK, Central Michigan University, PAUL GUEYE, Hampton University, MICHAEL THOENNESSEN, Michigan State University, MONA COLLABORATION — Prior to 2014, no comprehensive study had been undertaken to compile experimental results from neutron unbound spectroscopy using invariant mass measurements, gamma resolutions and half-lives. Through the collaborative efforts of Central Michigan University, Hampton University and the NSCL, a project was initiated to catalog all unbound resonances in light nuclei ($Z=1-12$). Unbound resonances were characterized by having a confirmed neutron decay branch and/or an energy level greater than the neutron binding energy listed for that isotope, according to either the NNDC's ENSDF or XUNDL and the referred journals therein. This was initially compiled in July 2014 and presented in October of that year. Recent discoveries and updates to NNDC have added ten isotopes and their resonances. Additionally, various corrections to previously compiled resonances have been made and equivalent evaluated and unevaluated invariant mass measurements have been consolidated into single entries. The neutron separation energy is noted for each isotope. The isotopes in which unbound resonances occur have been identified and, if known, each unbound resonance's gamma resolution, half-life, method of production and journal reference were also determined.

Elizabeth Havens
Central Michigan University

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