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The Combined Plot – A new tool for viewing patterns in physics. BENJAMIN SHU, ALEJANDRO SONZOGNI, ELIZABETH RICARD-MCCUTCHAN, Brookhaven National Laboratory — The National Nuclear Data Center (NNDC) at Brookhaven National Laboratory maintains databases of information related to every experimentally-observed nuclide. In order to help visualize patterns across all 3,387 of these nuclei, we have developed the Combined Plot as an addition to the NuDat web application. This allows users to plot up to 35 distinct nuclear properties as a function of proton number, neutron number, or mass. It also allows users to plot observables as functions of each other. Examples of observables include data like proton/neutron separation energies, half-lives, Q values and excitation charges. Because of its connection to the ENSDF database, the Combined Plot can graph these patterns across all known nuclides as soon as a user requests them. This makes it capable of illustrating known patterns (i.e. neutron separation energy decreasing with N) as well as searching for patterns yet to be found. By implementing these functions, the NNDC hopes to make the Combined Plot a useful tool for education and future research. Work sponsored by the Office of NP, Office of Science of the U.S. DOE under Contract No. DE-AC02- 98CH10886.

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