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Analytical expression for the functional dependence between complex scattering length and binding energy QUAMRUL HAIDER, Department of Physics & Engineering Physics, Fordham University, Bronx, N.Y. 10458, LON-CHANG LIU[1], Theoretical Division — We derive the analytical expressions that relate the binding energy and half-width of an unstable bound state to the corresponding complex scattering length and vice versa [1]. This analytical dependence is interaction-model independent. It provides a check on the consistency between theoretical calculations (respectively, experimental measurements) of bound-state formation and low-energy scattering for any given particle-target system. Numerical examples are presented for eta-nucleus systems.

[1] Q. Haider and Lon-chang Liu, to appear in Acta Physica Polonica.

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