Universal discrete scaling beyond three particles in bosonic and fermionic systems.

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I will present results for the scalings of three and four boson systems, as well as for an impurity and two and four fermions systems for short-ranged potentials with large scattering lengths. While in the first case appears a discrete scaling beyond the Efimov geometrical law, which will be illustrated with calculations using finite range two, three and four-body potentials, in contrast, in the second case only the impurity+two fermions discrete scaling appears and is reflected in the impurity+four fermions bound state energy, that is shown as a new energy scaling law.