Widths of nuclear states from ab initio calculations[1] KENNETH NOLLETT, Physics Division, Argonne National Laboratory — *Ab initio* calculations of nuclear structure from the bare nucleon-nucleon interaction describe the energy spectra of light nuclei quite accurately, but the usual pseudobound calculations do not yield widths when those levels are unbound. Computing widths from scattering wave functions is difficult and computationally expensive, but one can also compute widths directly from the pseudobound calculations using an integral relation. The integral is short-ranged and thus well-suited to quantum Monte Carlo methods. I will present computed widths for one-nucleon emission from unbound states of light nuclei, concentrating on relatively narrow states without large alpha widths. For most states, these are the first ever *ab initio* calculations of widths. A closely related integral yields asymptotic normalizations of bound states, and I will also present the first *ab initio* calculations of many of these quantities.

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