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Asymptotic normalizations and related quantities from quantum Monte Carlo wave functions KENNETH NOLLETT, Argonne National Laboratory — Asymptotic normalization coefficients (ANCs) are amplitudes of nuclear overlap functions at large radius. As such, they characterize several properties of bound nuclei including amplitudes of transfer reactions. In both variational and basis methods, accurate ANCs are difficult to extract directly from overlaps. However, they may also be obtained by a Green's-fuction approach that yields ANCs as integrals over the better-determined short-range parts of the wave functions. I will describe the application of this integral approach to *ab initio* wave functions computed by the variational Monte Carlo and Green's function Monte Carlo methods, and I will present results for $A \leq 10$. Surface amplitudes of unbound states may be found by essentially the same method, yielding scattering and reaction amplitudes and resonance widths. As an illustration of the method, I will discuss the problem of properly normalizing parity-violating matrix elements in neutron-^{4}He scattering.

Kenneth Nollett
Argonne National Laboratory

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