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Scale dependence of short-range correlations with the in-medium similarity renormalization group¹ NATHAN PARZUCHOWSKI, RICHARD FURNSTAHL, Ohio State Univ - Columbus, SCOTT BOGNER, Michigan State University — In recent years, the nuclear physics community has made a considerable effort to understand the nature of the short-range correlation (SRC) scaling factor a_2 . Even though SRCs are a property of the nuclear wave function and are thus non-observable, recent theoretical work suggests that the ratio of SRCs between two nuclei is both scale and scheme independent. This ratio, denoted by a_2 , has been obtained experimentally for nuclei ranging from the deuteron to ^{197}Au , but has only been computed for very light nuclei thus far. In this work, we have employed the in-medium similarity renormalization group (IMSRG) as a means to compute a_2 for intermediate mass nuclei, allowing us to test the supposed observable nature of a_2 for a wide range of systems. In order to obtain accurate descriptions, we explore infrared extrapolations in quantities relevant to a_2 . These explorations can help shed light on the convergence features of many nuclear physics quantities computable with modern many-body methods.

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