Scale dependence of short-range correlations with the in-medium similarity renormalization group\textsuperscript{1} NATHAN PARZUCHOWSKI, RICHARD FURNSTAHIL, 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 \(^{197}\text{Au}\), 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.

\textsuperscript{1}Funding provided through NSF grant PHY-1614460.