

Abstract Submitted
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Applying Renormalization Group Theory to the Square Well Liquid DAN ROTH, DAVID ROUNDY, Oregon State University — We will present a study of the convergence properties of renormalization group theory (RGT) when applied to the square well (SW) liquid. RGT is a recursive process that allows us to make accurate predictions of properties of a liquid near its critical point by accounting for the effects of fluctuations at multiple length scales. This can be computationally intensive, with the computing time scaling as an exponential of the longest length-scale fluctuations considered—that is, the recursion depth. I will present an overview of this method, a discussion of the computational difficulties and limitations that I have encountered, and some preliminary results comparing SW and SW+RGT.

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