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Crossover equation of state for the liquid-vapor critical point JOSEPH RUDNICK, Angeles, California 90095-1547, MARTIN BARMATZ, FANG ZHONG, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California 91109-8099 — The principles and implementation of a new crossover equation of state for liquid vapor systems will be presented. The equation of state incorporates crossover that is correct in both the mean field and asymptotic critical regimes. It is also consistent with both leading order and correction-to-scaling amplitude ratios. We discuss the comparison between this equation of state and the results of recent measurements of thermodynamic properties of ^{3}He in the vicinity of its liquid-vapor critical point.

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