

Abstract Submitted
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Density Matrix Embedding Theory for Symmetry Protected Topological Systems USHNISH RAY, GARNET CHAN, Caltech — Density Matrix Embedding Theory (DMET) presents a novel approach in capturing the physics of strongly correlated systems. It essentially describes finite fragments in the presence of environment while explicitly allowing quantum entanglement between both. DMET has been remarkably successful in studying systems ranging from molecules to solids and the paradigmatic Hubbard model. In this talk, we will present extensions of DMET to systems that are allowed to break $SU(2)$ spin symmetry as well as $U(1)$ particle number symmetry. This will enable us to study a range of broken symmetry phases such as topological superconductivity and, more interestingly, their interplay with strong correlations.

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