Abstract Submitted
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The Density Matrix Renormalization Group Algorithm for Strongly Correlated Systems: A Generic Implementation[1] GONZALO ALVAREZ, Oak Ridge National Laboratory — I will present DMRG++, a fully functional generic Density-Matrix Renormalization Group (DMRG) code with sample cases for the Hubbard and Heisenberg model, and for one-dimensional chains and n-leg ladders. My talk will include an overview of the core C++ classes, effective symmetry blocking and parallelization found in DMRG++. I will also explain how to add new strongly correlated electron (SCE) models and geometries with minimal code changes. Even if you are not very familiar with the DMRG or C++, you will be able to understand the main motivations and advantages of generic programming applied to SCE systems.

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Gonzalo Alvarez
Oak Ridge National Laboratory

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