DMRG study of Many-Body Localization XIONGJIE YU, BRYAN CLARK, University of Illinois, Urbana-Champaign, DAVID PEKKER, University of Pittsburgh — Numerical studies on many-body localization (MBL) problems have heavily relied on exact diagonalization (ED) techniques so far which has severely limited the system size that can be studied. Here we report a density matrix renormalization group (DMRG) based method for simulations in the many-body localized phase allowing us to reach system sizes inaccessible to ED. We describe our techniques and report on our results applying DMRG to larger systems.