Kernel sweeping method for exact diagonalization of spin models - numerical computation of a CSL Hamiltonian[1] DARRELL SCHROETER, Occidental College, ELIOT KAPIT, University of Chicago, RONNY THOMALE, MARTIN GREITER, Universitat Karlsruhe — We have recently constructed a Hamiltonian that singles out the chiral spin liquid on a square lattice with periodic boundary conditions as the exact and, apart from the two-fold topological degeneracy, unique ground state [1]. The talk will present a kernel-sweeping method that greatly reduces the numerical effort required to perform the exact diagonalization of the Hamiltonian. Results from the calculation of the model on a 4×4 lattice, including the spectrum of the model, will be presented. [1] D. F. Schroeter, E. Kapit, R. Thomale, and M. Greiter, *Phys. Rev. Lett.* in review.

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