Spin $1/2$ Heisenberg antiferromagnet on kagome: $Z_2$ spin liquid with fermionic spinons$^1$ 
ZHIIHAO HAO, Department of Physics and Astronomy, University of Waterloo, Waterloo, ON, OLEG TCHERNYSHYOV, Department of Physics and Astronomy, Johns Hopkins University, Baltimore, MD — Motivated by recent numerical and experimental studies of spin $1/2$ Heisenberg antiferromagnet on kagome, we formulate a many-body model for the fermionic spinons introduced in Phys. Rev. Lett. 103, 187203. The spinons experience strong onsite attraction. They also couple with a compact U(1) gauge field. The ground state of the model is generically a $Z_2$ liquid. We calculate the edge of the two-spinon continuum, which can be measured in numerics and inelastic neutron scattering experiments.

$^1$ZH is supported by NSERC of Canada. OT is supported by the U.S. Department of Energy, Office of Basic Energy Sciences, Division of Materials Sciences and Engineering under Award DEFG02-08ER46544.