Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Comparing Extremal and Hysteretic Optimization in Spin Glasses[1] BRUNO GONCALVES, STEFAN BOETTCHER, Emory University — We compare the capabilities of the HO[2] and the EO[3] heuristic in finding spin glass ground states. Using a one-parameter model recently discussed by Katzgraber and Young [4] that interpolates between the mean-field, infinte-dimensional SK spin glass and the finite-dimensional EA lattice spin glass, we evaluate the heuristics as a function of that parameter. Our results show interesting variations in algorithmic behavior that elucidates their properties. It may also indicate a transition in the physics between high and low-dimensional spin glasses.

[2]PRL 89, 150201
[3]PRL 86, 5211
[4]PRB 67, 134410

Bruno Goncalves
Emory University

Date submitted: 20 Nov 2006   Electronic form version 1.4