

Abstract Submitted  
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**Dynamic Phase Diagram of the DC-Pumped Magnon Condensates** SCOTT BENDER, Department of Physics and Astronomy, University of California, Los Angeles, REMBERT DUINE, Institute for Theoretical Physics, Utrecht University, ARNE BRATAAS, Department of Physics, Norwegian University of Science and Technology, YAROSLAV TSERKOVNYAK, Department of Physics and Astronomy, University of California, Los Angeles — We investigate the effects of nonlinear dynamics and damping by phonons on a system of electronically pumped Bose-Einstein condensed or normal phase magnons in a ferromagnet. The nonlinear effects are crucial to understanding the phenomenon of “swasing.” Meanwhile damping was heretofore neglected, since the pumped magnon condensates previously considered are quasi-equilibrium and considered only a much shorter timescale. We analyze the magnetic phase behavior in the presence of these two new effects, demonstrating the possibility of stable condensate and hysteresis.

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