

Abstract Submitted  
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**Magnetic ordering and dynamics of driven and dissipative spin systems** CHING-KIT CHAN, TONY LEE, ITAMP/Harvard — There has been increasing interest in the study of dissipative and interacting quantum systems due to the advances of experimental implementations based on trapped ions and atomic ensembles. Here, we theoretically study the Heisenberg spin model under coherent driving and dissipation. The competition among the coherent drive, spin interaction and dissipation leads to an enriched steady state phase diagram comprising of various spin orderings, bi- and tri-stabilities, as well as self-sustaining spin oscillations. The non-equilibrium nature of the dissipative spin system can render the power spectrums and the spatial correlation functions to be time dependent.

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