

Abstract Submitted
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Self-consistent theory of instabilities in the spin-1 Bose gas AUSTEN LAMACRAFT, University of Virginia, RYAN BARNETT, University of Maryland — We discuss instabilities of a spin-1 Bose condensate using a Hartree-Fock-Bogoliubov approximation to account for the interactions between the unstable modes. There is a close analogy to the “S-theory” that describes parametric excitation of magnons in solid state systems. We particularly emphasize the pair-breaking effect of phase fluctuations in the parent condensate and their role in inhibiting the instability.

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