Abstract Submitted
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**One dimensional polarized paired Fermi gases on a Feshbach resonance**[1] STEFAN BAUR, ERICH MUELLER, Cornell University — We study the effects of spin polarization on the BEC-BCS crossover in one spatial dimension(1D). To this end we model the system using the Bose-Fermi resonance model in 1D and, by solving the three-body problem of a dimer and an excess fermion, we give arguments for a possible phase transition between the FFLO phase characterized by an oscillating superfluid correlation function and a Bose-Fermi mixture featuring nodeless superfluid correlations [arXiv:0902.4653]. In addition, we explain recent experiments of the Rice group [arXiv:0912.0092] by solving thermodynamic Bethe ansatz equations for the Gaudin-Yang Hamiltonian. Work done in collaboration with Y.-A. Liao, A. S. C. Rittner, T. Paprotta, R. G. Hulet and J. Shumway.

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