

Abstract Submitted
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First branch of liquid states of a many-atom Bose system¹ BO GAO, University of Toledo — We present more detailed properties of the first branch of the liquid states as suggested and studied recently, including the equilibrium density and the equilibrium energy-per-particle of the liquid, speed of phonons, and pair correlation functions. Results are presented both for liquid branches corresponding to negative scattering lengths² and for those corresponding to positive scattering lengths³.

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²B. Gao, J. Phys. B **37**, L227 (2004).

³B. Gao, Phys. Rev. Lett. **95**, 240403 (2005).

Bo Gao
University of Toledo

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