Recent progress on the Liouville systems

Hsin-Yuan Huang
Department of Applied Mathematics
National Yang Ming Chiao Tung University

Abstract

The Liouville systems have several applications to the various areas of biology, geometry and physics. For example, the abelian Chern-Simons system with n-Higgs fields can be regarded as a perturbation of the Liouville system. Also, the nonlocal Liouville system corresponds to the stationary or self-similar Patlak-Keller-Segel system. In this talk, I will review some recent results on this system, and its connection to the Patlak-Keller-Segel system. I will especially focus on the bubbling phenomenon of the solutions.