

**Title: Computing ground states of spin 2 Bose-Einstein condensates
by the normalized gradient flow.**

By

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Abstract : In this talk, we will propose an efficient and accurate numerical method to compute the ground state of spin-2 Bose-Einstein condensates via the normalized gradient flow (NGF). The key idea is to find proper additional conditions to uniquely solve out the five projection constants in the corresponding projection step of NGF. Numerical results will be reported to show the efficiency of our method and to demonstrate some interesting phenomena.