



Colloquium

Wednesday October 11, 2006

12pm Room 08-2130

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## **ROTATING MATTER WAVES IN BOSE-EINSTEIN CONDENSATES**

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The experimental and theoretical study of Bose-Einstein condensates (BECs) has gained large interest due to the very precise experimental control and monitoring capabilities that are available. These developments have led to an increase of interest in the study of matter waves in these atomic physics contexts. We consider the dynamics of waves in two-dimensional magnetically trapped BECs. In particular, we consider the existence and stability of azimuthally modulated structures such as rings, multi-poles, soliton necklaces, and vortex necklaces. The analysis is given for both attractive and repulsive interactions among the condensate atoms.

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