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## **Dense Axion Stars**

*Saturday 6 August 2016 18:00 (2 hours)*

Axions are described by a relativistic field theory with a real scalar field whose self-interaction potential is periodic. Low energy axions can be described more simply by a nonrelativistic effective field theory with a complex scalar field called *axion EFT*. An axion star is a gravitationally bound collection of axions. We use axion EFT to calculate the properties of a new class of axion stars called *dense axion stars*, in which the attractive gravitational force is balanced by the mean-field pressure of the axion Bose-Einstein condensate.

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