



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Magnetar-powered Supernovae

by



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Time: 4:00 - 5:00 p.m.

Join ZOOM Meeting: <https://cuhk.zoom.us/j/95139821092>



ALL INTERESTED ARE WELCOME

Abstract

Massive stars of 30 - 80 solar masses eventually collapse to black holes because the neutrino energy cannot drive a strong shock to overcome the ram pressure of infall, so core bounce fails to produce an explosion. But this picture can change with rapidly rotating stars, in which a neutron star (NS) with a period of a few milliseconds may be born. Rotation can amplify the magnetic field of the NS above $1E15$ G, creating a magnetar. In this talk, I will discuss the theoretical models of the exotic explosions powered by the magnetars, and their astrophysical applications.

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