



THE CHINESE UNIVERSITY OF HONG KONG
Department of Physics
COLLOQUIUM

Bubble-Filament Paradigm of Star Formation

by



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Join ZOOM Meeting: <https://cuhk.zoom.us/j/96321212045>



ALL INTERESTED ARE WELCOME

Abstract

Recent observations have emphasized the importance of the formation and evolution of magnetized filamentary molecular clouds in the process of star formation. Theoretical and observational investigations have provided convincing evidence for the formation of molecular cloud cores by the gravitational fragmentation of filamentary molecular clouds. Thus, the mass function and rotations of molecular cloud cores should be directly related to the properties of the filamentary molecular cloud, which determines the initial size and mass distribution of a protoplanetary disk around a protostar created in a core. In this talk I explain our current understanding of the star formation processes in the Galactic disk, and summarize various processes that are required in describing the filamentary molecular clouds to understand the star formation rate/efficiency, the stellar initial mass function, and the angular momentum distribution of protoplanetary disks in their early evolutionary phase.