Molecules as diagnostic probes of protoplanetary disk structure

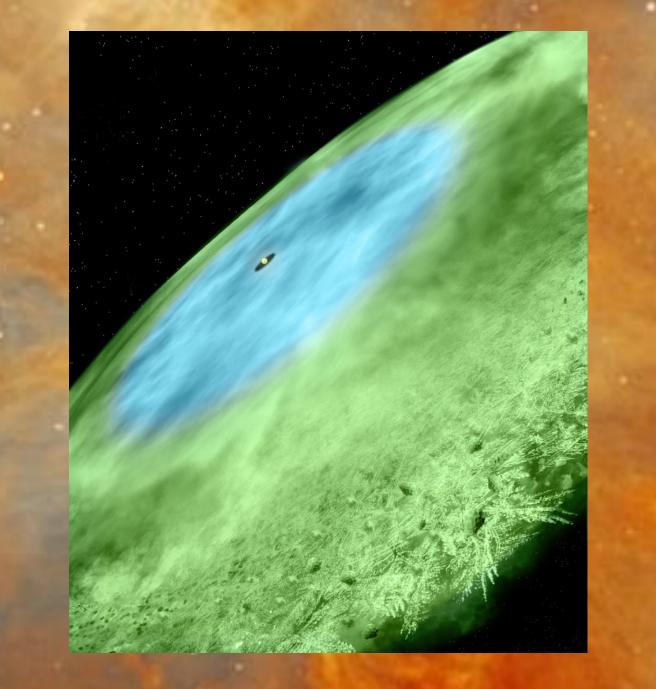Speaker:　Dr. Chunhua Qi （漆春华）
(Harvard-Smithsonian Center for Astrophysics)

Time:　　Wednesday, May 16, 2018, 02:00pm

Location: 科学馆322报告厅

Abstract:

The disks around pre-main sequence stars are the reservoirs of raw material that represent the initial conditions for the formation of planetary systems. Molecules are excellent diagnostics of the chemical composition and evolution of disks. Here I present how we use the observations of molecular emission to constrain the distribution of gas molecular tracers, and explore their implications for physical structures and chemical processes in protoplanetary disks.

Bio:

I am an astrophysicist at the Smithsonian Astrophysical Observatory (SAO). I graduated from Peking University in 1995 with BS in Space Physics. In 2001, I got my PhD in Planetary Science at Caltech on disk and comet observations using the OVRO Millimeter Array with my advisor Prof. G. A. Blake. Then I did my 3-year postdoc at the Harvard-Smithsonian Center for Astrophysics before I joined SAO.

My main research interests are protoplanetary disks and comets. I observe nearby protoplanetary disks on emission lines of diagnostic molecules with arrays of radio-antennas to discern physical condition and chemical complexity of disks at the verge of planet formation. I am also interested in comets, studying their connection with the Solar Nebula and the origin of our own Solar System.