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国台学术报告 NAOC COLLOQUIUM

2021 年 第 4 次 / No. 4 2021

Time: Wednesday 2:30 PM, Mar.17th Location: A601, NAOC

Touring the stages of star and planet formation

Prof. Gregory Herczeg (KIAA/PKU)



Greg Herczeg studies star and planet formation, primarily using observations from UV through sub-mm wavelengths and with specific expertise in disk accretion and accretion-driven outflows. After getting his PhD from Colorado in 2005, Greg worked as a postdoc at Caltech with Lynne Hillenbrand and at MPE with Ewine van Dishoeck before moving to the Kavli Institute for Astronomy and Astrophysics at

Peking University at the end of 2011, where he is now an Associate Professor and Associate Director for Science. In 2020, Greg began serving as the chair of the Science Advisory Committee for TMT and started a position as Science Editor for the AAS Journals.

Abstract

While the stages in the formation of stellar systems are now well charted, uncertainties in the initial conditions and evolution lead to stellar systems with a diverse array of architectures. In this talk I will discuss the major stages in the evolution of young stellar objects, starting from the young protostars and ending in stars that have dispersed all

circumstellar material. At each step I will describe insights into some of the relevant processes that are being obtained from ongoing observational programs. For protostars, we are pursuing the first long-term monitoring program in the sub-mm to establish the role of accretion variability during the main phase of stellar growth in the EAO/JCMT Transient Survey. The next stage, protoplanetary disks, is now being revolutionized by exquisite ALMA images of substructures, which point to the presence of hidden planets. Gaia observations of young stars that have shed their disk promise to reveal the recent star formation in our local neighborhood. Finally, at the end I will discuss ongoing and future efforts that will shed light on star and planet formation, including with the HST/ULLYSES program, JWST, and eventually the TMT.

