

国台学术报告 NAOC COLLOQUIUM

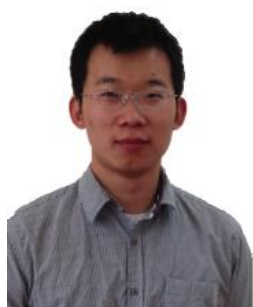
2013 年 第 62 次 / Number 62, 2013

TIME: Wednesday, 2:30 PM, Oct. 30, 2013 **LOCATION: A601 NAOC**

Instrumentation for Kinetic Inductance Detector (KID)

Based Sub-millimeter Radio Astronomy

Dr. Duan Ran (NAOC)



Dr. Duan joined NAOC as FAST fellow this summer. He obtained his PhD from California Institute of Technology and BS from Nanyang Technological University. His main research interests includes receiver/readout development for astronomical instruments; Sub-mm/mm detection technology.

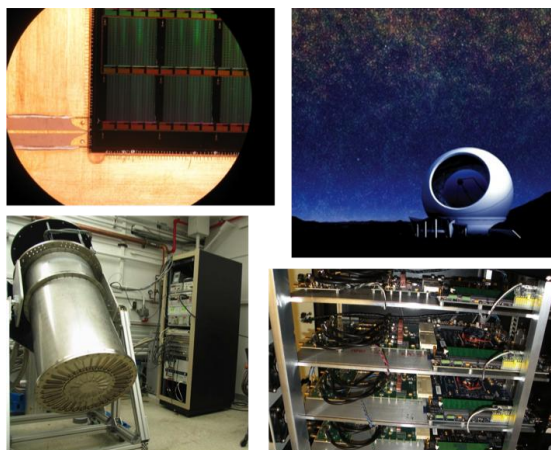
Abstract

Large amount of important scientific information is contained in sub-millimeter (submm) and far infrared (FIR) wavelength: e.g. dusty galaxies, clusters and star formation etc, but it is also one of the least explored field in astronomy due to technology difficulties.

In the past ten years, a lot of efforts have put on sub-millimeter and millimeter (mm) wave astronomical instrument/telescope development. Number of detectors is key feature of such instrument and is the direction we pursue. Future telescope will require as many as hundreds of thousands of detectors or more to meet the telescope fields of view, scan speed and resolution ability. The large pixel count is benefit from revolution of multiplexable detectors, where we use kinetic inductance detector (KIDs) array.

This talk presents the development of KIDs based instruments include detector wafer design and readout electronics, which together made currently largest detector counts of submm/mm imaging array (2304) possible and attractive.

The work of this talk has been implemented as the Multiwavelength Sub/millimeter Inductance Camera (MUSIC), a new instrument for the Caltech Submillimeter Observatory (CSO).



All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.

You are welcome to nominate speakers to Weimin Yuan (wmy@nao.cas.cn), Mei Zhang (zhangmei@bao.ac.cn), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn), Shude Mao (smao@nao.cas.cn)