

CU Physics Department Colloquium

Monday, March 21, 2011 4:10 PM 428 Pupin Hall

Submillimeter Astronomy and Cosmology

Located between the radio and infrared, the submillimeter wavelength band is one of the last to be opened up for astronomical observation and discovery. It is now understood that around half of the electromagnetic energy produced by stars and galaxies since the Big Bang lies in the submillimeter, and that extremely luminous galaxies undergoing huge bursts of star formation may be quite bright at submillimeter wavelengths but invisible to the most powerful optical-infrared telescopes. I will trace the development of the science and technology of submillimeter astronomy from its humble beginnings on the fringes of science in the 1960s and 1970s to the present day, when the largest space telescope ever launched – the Herschel Space Observatory – and the largest ground-based astronomy project in the world – the Atacama Large Millimeter/Submillimeter Array (ALMA) – are both devoted to submillimeter astronomy. The next major step for the field will be the Cornell-Caltech Atacama Telescope (CCAT), a 25 meter submillimeter telescope equipped with wide-field cameras and multi-beam spectrometers that will enable deep and broad surveys of the submillimeter universe. Boosted by a strong endorsement in the 2010 Decadal Survey report, construction of CCAT is expected to commence a few years from now.



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Hosted by Chuck Hailey