



Cleveland Astronomical Society Thursday, June 2, 2005 Meeting Announcement

6:15-7:00 pm.: Snacks and soft drinks; 7:00 pm.: Buffet dinner
7:45 pm.: Election: 8:00 pm: Talk

Leonard Krieger CanalWay Center, Ohio & Erie Canal Reservation
Cleveland Metroparks, 4524 E. 49th Street, Cuyahoga Heights

Speaker: Dr. John Ruhl

Department of Physics, Case Western Reserve University

“The South Pole Telescope”

Currently a new telescope is under construction at the geographic South Pole Station, the best millimeter-wave observing site on Earth. Scheduled for “first light” in early 2007, this telescope will be used to survey the sky for galaxy clusters using a signal known as the “Sunyaev-Zeklovich Effect.” The name refers to the interaction of the gas in clusters with the cosmic microwave background radiation. The signal provides a method for finding clusters independent of their distance from us. (The method is unlike distance considerations in optical or X-ray searches.) We hope to find thousands of new clusters. The catalog that results from observations with the South Pole Telescope will be used to study the history of structure formation in the universe. In turn, we can then learn new things about the dark energy that dominates the universe’s energy density, causing the universe’s expansion to accelerate. Dr. Ruhl will describe the South Pole Telescope, how it will be used, and present an overview of what we hope to learn with it.