



HAO Colloquium Series

(Refreshments served)

Speaker: Joe Giacalone, University of Arizona

Time: 1:30–2:30 pm

Date: Wednesday, February 20, 2013

Location: CG1-2126

Title: The Outer Heliosphere According to Voyager and IBEX

Abstract:

Our understanding of the heliosphere has evolved considerably from early theoretical ideas, primarily originating with Gene Parker in the late 1950s. And while some may argue that our our current picture of the heliosphere is not all that different from the early theoretical ideas, there is no doubt we have since learned a great deal. Particularly in the past decade as new and puzzling observations from NASA spacecraft continue to challenge and shape our understanding. The two Voyager spacecraft—launched over 35 years ago—have each crossed the solar-wind termination shock and recently, the mission science team announced that Voyager 1 has entered a "new" region of space, quite possibly the interstellar medium. NASA's IBEX mission also provides a unique view of the heliosphere through remote-sensing observations. In this talk, I will discuss our current understanding of the heliosphere, focusing particularly on some of the key issues that outer-heliosphere scientists debate. Most notable among these are the origin of anomalous cosmic rays, the modulation of galactic cosmic rays, is Voyager 1 now in the interstellar medium?, and what is the origin of the "IBEX ribbon"?