



SPRING '08 Colloquia

Refreshments at 3:15 PM, Talks at 3:30 PM in the John N. Bahcall Auditorium

www.stsci.edu/institute/sd/talks/Colloquia for updates

Wednesday March 19, 2008

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The Tip of the Magellanic Stream: GALFA's View

More than 40 years since its discovery, the Magellanic Stream (MS) still provides many surprises. As a part of the on-going HI survey by the consortium for Galactic studies with the Arecibo L-band Feed Array (GALFA), we have recently imaged the tip of the MS. While previous studies suggested that the MS is dying off around zero Declination, the new GALFA images reveal four large-scale, coherent HI streams, extending continuously over a length of 20 degrees. These spectacular filaments are accompanied by a large population of small HI clumps. We compare the observed morphology and kinematics of the MS tip with tidal models for the MS formation, and explore various instabilities that affect a warm tail of gas trailing through the Galactic halo. Curiously, if the observed clumpy structure is mainly due to thermal instability, then the tip of the MS is at a distance of ~ 70 kpc.