

**S28c            Milliparsec-scale structure and evolution of Centaurus A**

S. Horiuchi, D.L. Meier, R.A. Preston (Jet Propulsion Laboratory)

We conducted a space VLBI (VSOP) monitoring program of Centaurus A, the nearest active galaxy, extensively at 5 GHz and 1.6 GHz on several different time scales from mid 1999 to mid 2000 when the uv-coverage was optimal. Space-ground baseline fringes of Centaurus A were detected for the first time, although the signal to noise ratio became rapidly smaller as the space baseline length became larger than one Earth diameter. These observations produced images of the sub-parsec jet components with a resolution several times better than images in an ongoing 8.4 GHz monitoring campaign and few times better than 22 GHz studies. Owing its proximity, our Cen A space-VLBI images are some of the highest spatial resolution images ever made - 0.008 pc per beam - only comparable to the Junor et al. 43 GHz VLBI images of M87. The Cen A counter jet at 5 GHz was detected for the first time. We discuss the implication of the complex behavior of the sub-parsec jet flow, the environment of the central engine, and the possibility to test theoretical models for the differences between Fanaroff and Riley classes I and II.