

J2: Very high resolution imaging in VLBI

The Pearson-Readhead Survey from Space

R.A. Preston

Jet Propulsion Laboratory (MS238-332), 4800 Oak Grove Drive, Pasadena, CA 91109, USA
Tel: 818-354-6895, Fax: 818-393-6890, e-mail: rap@logos.jpl.nasa.gov

S.J. Tingay, D.L. Jones, M. Lister, G. Piner, D.W. Murphy, and D.L. Meier (JPL)

T.J. Pearson and A.C.S. Readhead (California Institute of Technology)

H. Hirabayashi and H. Kobayashi (Institute of Space and Astronautical Science)

M. Inoue (Nobeyama Radio Observatory)

The VSOP Space VLBI mission uses the HALCA spacecraft, launched from Japan in February 1997, in conjunction with ground radio observatories around the world to create a high resolution radio-wavelength imaging facility. We are using this unique facility to observe a complete sample of Pearson-Readhead Survey sources [1] at 4.8 GHz to determine core brightness temperatures and pc-scale jet properties.

The Pearson-Readhead sample has been used for extensive ground-based VLBI survey studies. This sample is ideal for a VSOP survey because the sources are strong, the VSOP u-v coverages are especially good above $+35^{\circ}$ declination, and multi-epoch ground-based VLBI data and other existing supporting data on these sources exceeds that of any other possible sample. We have chosen to observe a complete subset of this sample that is most likely to show fringes on space-earth baselines. To date we have imaged a majority of the 31 sources in our sample.

In addition, we are obtaining matched-resolution 15 GHz observations using the VLBA at epochs close in time to the space VLBI observations to investigate the spectral indices of the source components at high resolution.

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[1] Pearson, T. J. and A. C. S. Readhead, *Astrophysical Journal* 328 , 114 (1988).