

HIGH-RESOLUTION HST IMAGES OF THE PLUTO-CHARON SYSTEM, S.A. Stern (Southwest Research Institute, Boulder, CO), M.W. BUIE (Lowell Observatory, Flagstaff, AZ), L.M. Trafton (McDonald Observatory, Austin, TX), and B.C. Flynn (Southwest Research Institute, Boulder, CO.)

We have obtained high-resolution images of Pluto and Charon using the Hubble Space Telescope (HST) Faint Object Camera (FOC). These images were made during the period 20 June to 01 July 1994, and provide the first direct maps of Pluto [1]. These images were made in two color bandpasses, one centered near 410nm and the other centered near 278nm. Images were made in each of the two bandpasses on four dates as Pluto rotated twice on its axis. Together, the four sets of images provide nearly-complete longitudinal coverage of Pluto, with a typical S/N ratio in the 410nm images near 20 per resolution element, and a resolution sufficient to show large scale spots and polar caps on the surface.

We will present these images, describe the reductions performed on them, and compare the resulting maps to previous lightcurve and mutual event inversion maps [2] of Pluto.

In addition to being used for mapping purposes, the HST/FOC dataset is being analyzed to (i) obtain information on Charon's lightcurve, (ii) to constrain Charon's north/south albedo asymmetry, (iii) to better determine Pluto's limb darkening coefficient, and (iv) to search for evidence of small satellites in the inner Pluto-Charon system.

Figure 1: An HST image of Pluto made on 01 July 1994 in the F278M+F275W (left) and F410M (right) filter FOC bandpasses. Pluto's north pole is at the top of this image.

References

[1] Stern, S.A., 1992. *Ann. Revs.Astron. Astrophys.*, **30**, 185-233. [2] Buie, M.W., D.J. Tholen, and K. Horne, 1992. *Icarus*, **97**, 211-227.

