

## Detection Of Planets The Hubble Space Telescope Advanced Camera For Surveys

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Under favourable circumstances direct planet detection will be feasible with the new Advanced Camera for Surveys (ACS), due for launch on the Hubble Space Telescope (HST) in 2000. This may be achieved through direct imaging using the “Aberrated Beam Coronagraph” or through precise astrometric and photometric measurement of appropriate candidates. The  $\alpha$  Cen triple star system, and nearest stars to the Sun, have been shown to possess regions in the space about them where planets could survive. Detailed optical simulations of  $\alpha$  Cen (A) indicate that detection of a Jupiter-like planet in a two-orbit image, although difficult, is feasible if the planet is suitably located. Meanwhile the proximity and low mass of the brown dwarf G1229B, only  $\approx 45M_J$ , make perturbation of its orbit by Jupiter-sized planets or photometric perturbation due to occultation by even lower mass planets, feasible observing programs for the ACS on HST. Burrows et al are engaged in an initial investigation using the Wide Field and Planetary Camera 2 during the current Cycle.