

## Limits To Planets Around Proxima Centauri From Precise Radial Velocities

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Efforts to detect companion objects to the star nearest to the Sun, Proxima Centauri, date back at least 20 years. They culminated recently in the announcement of a possible companion by Schultz *et al.* (1998) from HST FOS coronagraphy that indicated a substellar object separated by about 0.5 AU from Proxima Centauri. However, a subsequent observation with the HST WFPC2 by Golimowski and Schroeder (1998) could not verify the existence of any companion object within separations between 0.11 and 1.1 AU. This paper provides further evidence to that debate based on four years of precise radial velocity monitoring with the ESO CES at La Silla. Our data with a mean precision of 54 m/s show no evidence of a sub-stellar companion. Upper limits to the companion mass are inferred to range from 1.1 to 22 Jupiter masses at orbital periods of 0.75 to 3000 d, *i.e.* separations of 0.008 - 2 AU. If our results are combined with limits from precise astrometry (Benedict *et al.*) the existence of a brown dwarf supermassive planet can be excluded at separations up to 0.69 AU from Proxima Centauri.