

SCIENTIFIC NEWS

DISCOVERY OF THE LENSING GALAXY FOR THE TRIPLE QSO PG1115+080

The "triple quasar" PG1115+080 was observed February 17/18 with the CFHT RCA2 CCD at Prime Focus (PF). On this night, the seeing quality was estimated to be approximately 0.5 arc-seconds, as measured in 10- to 30-second focus exposures. The object was observed in the B, V, and R broad-band filters. The quasar has been measured numerous times at CFHT with several detectors and therefore it was of interest to compare the image scales measured previously with the predicted scale for the new detector. The R exposure was taken to examine the galaxies in the field near the quasar and to re-measure the apparent reddening of component B of the quasar itself. This component reportedly has redder colors than the other images, presumably due to the lensing galaxy (Young *et al.*, 1981, *Ap. J.* 244, 723).

The combination of the excellent seeing conditions, the image scale at PF with RCA2, and the dynamic range of the detector allowed us to obtain a direct image of what is believed to be the lensing object of PG1115+080 (Figure 1). The lens is located 0.33 arc-seconds East and 1.35 arc-seconds South of component C. The position of the object agrees very favorably with the position reported by S. Shaklan and K. Hege (1986, *Ap. J.*); however, the CCD data shows a clear, well resolved image of the galaxy while previous data have only been indicative. The CCD data are consistent with the observations of P. Henry and J. Heasley (1986, *Nature*) taken in excellent seeing at the IFA 2.2-meter telescope last year. The new CFH images appear to be deeper than those taken in previous studies.

A point-spread function was fitted to the QSO components and subtracted from the CCD frame to estimate the brightness of the galaxy (Figure 2). The lensing galaxy has an R magnitude of approximately 20.2 with a (V-R) of about 0.70. The redshift of the galaxy, estimated from comparison with theoretical models, is most likely in the range $0.4 < z < 0.55$.

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Figure 1



Figure 2

STRUCTURE EN VITESSE DU MILIEU INTERSTELLAIRE LOCAL

Des observations récentes couvrant tout le spectre électromagnétique allant de 21 cm aux rayons X ont apporté une richesse de données sur le milieu interstellaire (ISM) à moins d'environ 100 pc du Soleil. Cependant, ces informations se sont avérées difficiles à synthétiser en une image globale et cohérente des nuages locaux. D'autre part