Simultaneous EUVE/ROSAT Observations of PSR B0656+14

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The middle-aged pulsar PSR B0656+14 has been previously observed to be a bright soft X-ray source by the ROSAT PSPC instrument, and in conjunction with HST and ground-based optical data, is photometrically consistent with both magnetospheric and thermal surface/polar cap sources of emission. However, definitive blackbody parameter estimates are compromised by the unknown distance to the pulsar (~ 100 - 1000 pc), and this severely restricts the testing of condensed matter equation of state models. New analysis of PSR 0656+14 that, by combining recently published optical archival ROSAT data together with the EUVE photometric dataset, limits its thermal emission properties to a parameter space different than previously reported.

Assuming a neutron star of radius 10 km, it is suggested that PSR 0656+14 is situated no further than 300 pc away.