

Discovery of a Hard X-Ray Source, SAX J0635+0533, in the Error Box of the Gamma-Ray Source 2EG 0635+0521

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We have discovered an x-ray source, SAX J0635+0533, with a hard spectrum within the error box of the GeV gamma-ray source in Monoceros, 2EG J0635+0521. The unabsorbed x-ray flux is 1.2×10^{-11} erg cm⁻² s⁻¹ in the 2–10 keV band. The x-ray spectrum is consistent with a simple powerlaw model with absorption. The photon index is 1.50 ± 0.08 and we detect emission out to 40 keV. Optical observations identify a counterpart with a V-magnitude of 12.8. The counterpart has broad emission lines and the colors of an early B type star. If identification of the x-ray/optical source with the gamma-ray source is correct, then the source would be a gamma-ray emitting x-ray binary.