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Multi-band Observations of the Black Hole X-ray Binary V404 Cygni During Its Brief and Violent Outburst in 2015[1] DIPANKAR MAITRA, JOHN SCARPACI, Wheaton College-MA — The black hole X-ray binary system V404 Cygni went through a brief period of violent activity during 2015 June-July. Multiwavelength observations spanning from radio to γ-rays showed that the flux from the source varied rapidly, sometimes by a factor of 30 within an hour, during this outburst. Using Wheaton College Observatory's 12" telescope, equipped with an astronomical CCD and Johnson-Cousins BVRI filters, we observed V404 Cyg throughout the nights of 2015 June 24-25 and June 26-27. The results of these observations are presented here. Significant color evolution correlated with the optical luminosity was observed. The variability timescale favors a compact emission region, possibly originating in a jet outflow. The V-, R-, and I-band emission during the June 27 observing run appears to be dominated by an outflowing jet. A strong $H\alpha$ line from the accretion disk also likely contributes significantly in the R-band.

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