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Continued Swift monitoring of the black hole candidate MAXI J1659-152

ATel #3298; *Y. J. Yang, R. Wijnands (University of Amsterdam)*
on 20 Apr 2011; 16:08 UT
Credential Certification: *Rudy Wijnands (rudy@space.mit.edu)*

Subjects: Optical, Ultra-Violet, X-ray, Binary, Black Hole, Transient

Referred to by ATel #: [3339](#), [3358](#), [3379](#), [3506](#), [3517](#)

We report on an additional Swift observation of the black hole candidate MAXI J1659-152 (ATel #2873, GCN #11296) during the decay phase of its last outburst. One more observation was performed after our previous reports (ATel #3201, ATel #3249). The observation was taken on 2011-04-18 10:15:04 UT for about 1.4 ks in Photon Counting mode.

Our previous results demonstrated that the source flux was slowly decreasing in time. However, our latest observation reveals a dramatic drop in flux, suggesting that MAXI J1659-152 is accelerated its decay rate. The source might soon be undetectable with Swift/XRT. From the 0.3-10 keV image, we obtained 6 counts within a source radius 20" centered at the position of MAXI J1659-152 (ATel #2877). We used WebPIMMS to estimate the source flux by inputting the background subtracted count rate ~ 0.0039 c/s, column density $3e+21$ cm⁻², and a power-law photon index 2 (ATel #3249). The obtained unabsorbed flux from 0.5 to 10 keV energy band is $2.2e-13$ erg cm⁻² s⁻¹, which gives an approximate source luminosity $L_x=1.3e+33$ ergs/s (assuming a distance of 7 kpc, Kuulkers et. al, 2011, arXiv: 1102.2102). This is more than an order of magnitude lower than our previous measurement $L_x=5.6e+34$ ergs/s on March 27 (ATel #3249).

Apart from the XRT analysis, we also checked the UV/Optical data. The source was not detected in all filters. The obtained upper limits on the source magnitudes are $v>19.0$; $b>20.0$; $u>19.6$; $uvw1>19.9$; $uvm2>20.0$ and $uvw2>20.5$.

We thank the Swift team for their arrangement of these observations.

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