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## Further re-brightening of the black hole candidate MAXI J1659-152

ATel #3379; *Y. J. Yang, R. Wijnands (University of Amsterdam)*  
 on 25 May 2011; 17:04 UT  
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Subjects: Optical, Ultra-Violet, X-ray, Binary, Black Hole, Transient

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

Following our previous reports on a sudden drop but later a steep increase of the source intensity of the black hole candidate MAXI J1659-152 (ATels #[3298](#), #[3339](#), see also ATel #[3358](#)), we continued to monitor the source with Swift. An observation was carried out on 2011-05-21 13:10:19 UT with an exposure  $\sim 2.9$  ks. Our new observation shows that the source re-brightening is continuing. The energy spectrum can be well fitted with an absorbed power-law model. We obtained a column density  $N_H = 2.2 \pm 0.6 \times 10^{21} \text{ cm}^{-2}$  and a power-law photon index of  $1.6 \pm 0.2$ . The unabsorbed 0.3-10 keV flux is  $2.8 \times 10^{-11} \text{ erg cm}^{-2} \text{ s}^{-1}$ , transfers to a X-ray luminosity of  $1.6 \times 10^{35} \text{ erg/s}$  (assuming a distance of 7kpc, Kuulkers et al. 2011, arXiv:1102.2102), which is a factor of 2-3 times brighter than during the Chandra observation performed on May 12 (ATel #[3358](#)). However, with the distances derived by Miller-Jones et al. (1.6-4.2 kpc, ATel #[3358](#)) the luminosity would become  $8.6 \times 10^{33} - 5.9 \times 10^{34} \text{ erg/s}$ .

The source was also detected in all UVOT filters. The magnitudes we obtained are  $v = 18.6 \pm 0.3$ ,  $b = 19.5 \pm 0.3$ ,  $u = 18.9 \pm 0.2$ ,  $uvw1 = 19.5 \pm 0.3$ ,  $uvm2 = 19.6 \pm 0.3$ , and  $uvw2 = 19.4 \pm 0.2$ . As the source re-brightening is likely to continue, follow-up observations in other wavelengths are strongly encouraged.

We thank the Swift team for their prompt arrangement of the observation. This work made use of data supplied by the UK Swift Science Data Centre at the University of Leicester.

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