



## Erratum: “Simultaneous X-Ray and Infrared Observations of Sagittarius A\*’s Variability” (2019, ApJ, 871, 161)

H. Boyce<sup>1</sup>, D. Haggard<sup>1,2</sup>, G. Witzel<sup>3,4</sup>, S. P. Willner<sup>5</sup>, J. Neilsen<sup>6</sup>, J. L. Hora<sup>5</sup>, S. Markoff<sup>7</sup>, G. Ponti<sup>8</sup>, F. Baganoff<sup>9</sup>, E. Becklin<sup>3</sup>, G. Fazio<sup>5</sup>, P. Lowrance<sup>10</sup>, M. R. Morris<sup>3</sup>, and H. A. Smith<sup>5</sup>

<sup>1</sup> Department of Physics and McGill Space Institute, McGill University, 3600 University St., Montreal QC, H3A 2T8, Canada; [hope.boyce@mail.mcgill.ca](mailto:hope.boyce@mail.mcgill.ca)

<sup>2</sup> CIFAR Azrieli Global Scholar, Gravity & the Extreme Universe Program, Canadian Institute for Advanced Research, 661 University Ave., Suite 505, Toronto, Ontario M5G 1M1, Canada

<sup>3</sup> University of California, Los Angeles, CA 90095, USA

<sup>4</sup> Max-Planck-Institut für Radioastronomie, Bonn, Germany

<sup>5</sup> Center for Astrophysics, Harvard & Smithsonian, 60 Garden St., Cambridge, MA 02138, USA

<sup>6</sup> Kavli Institute for Astrophysics & Space Research, MIT, 70 Vassar St., Cambridge, MA 02139, USA

<sup>7</sup> Anton Pannekoek Institute for Astronomy/GRAPPA, University of Amsterdam, 1098 XH Amsterdam, The Netherlands

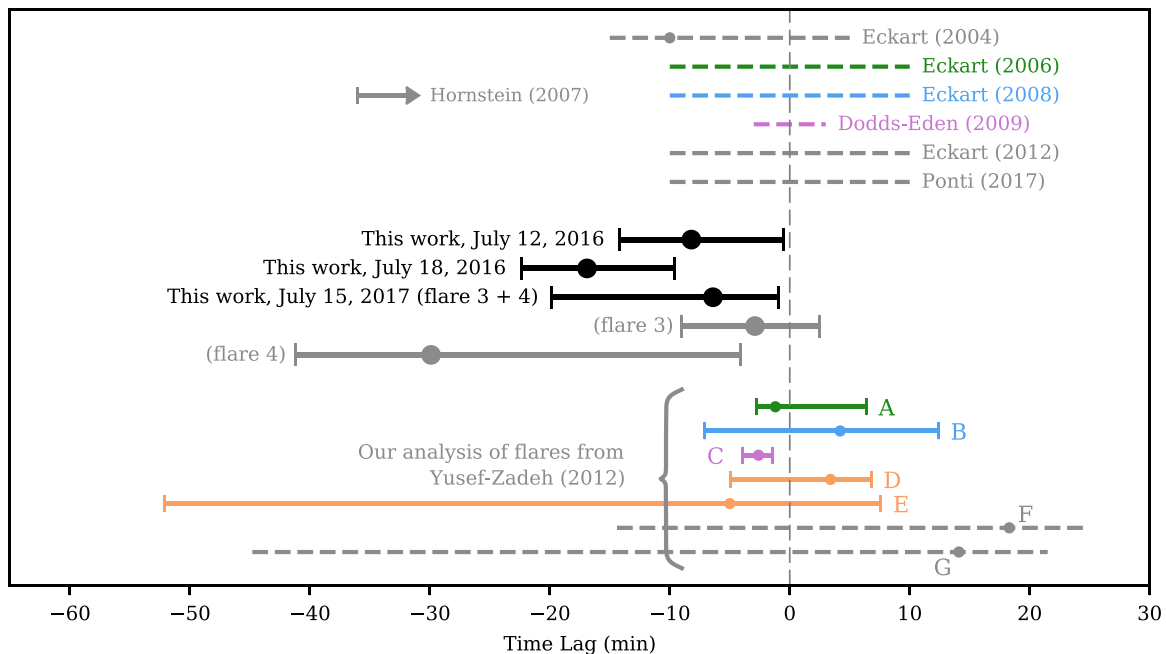
<sup>8</sup> Max-Planck-Institut für extraterrestrische Physik, Giessenbachstraße, D-85748 Garching, Germany

<sup>9</sup> Massachusetts Institute of Technology, 77 Massachusetts Avenue, 37-555, Cambridge, MA 02139, USA

<sup>10</sup> IPAC-Spitzer, MC 314-6, California Institute of Technology, Pasadena, CA 91125, USA

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In the published article, we presented Chandra X-ray light curves that were barycenter corrected using an incorrect right ascension (R.A. = 17<sup>h</sup>:76) for Sgr A\*. Here we correct Sgr A\*’s position to the known radio position (R.A., decl. = 17:45:40.0409, −29:00:28.118; Reid & Brunthaler 2004), using R.A. = 266<sup>o</sup>:42 and recompute the barycenter correction and cross-correlation analysis. This changes the time lag between the X-ray and IR emission by 2.5–5.8 minutes, still within our 68% error bars. The corrected time lags are reported here in Table 2 and Figure 4. These changes do not affect the scientific conclusions in the published article.














**Figure 4.** Time lags between IR and X-ray flares as reported in this work and in the literature. Plotted in black are the time lags from the three epochs in this work with significant X-ray and IR activity and their 68% confidence intervals determined from the distribution of 10,000 time lags measured from our MC realizations of our light curves. Plotted in solid gray are the results of the cross-correlation of the isolated sections of the 2017 July 15 light curve containing IR flares 3 and 4. Regions marked with dashed lines come from works that describe the flares to be “simultaneous to within  $x$  minutes” but quote no uncertainties (Eckart et al. 2004, 2006; Hornstein et al. 2007; Eckart et al. 2008; Dodds-Eden et al. 2009; Eckart et al. 2012; Ponti et al. 2017). For example, Eckart et al. (2006) report an X-ray and IR flare that are simultaneous to within 10 minutes, so we mark that with a line symmetric around zero ranging from −10 minutes to 10 minutes. Several other works report simultaneity between the X-ray and IR peaks, but do not report a time frame within which that claim can be considered valid (Yusef-Zadeh et al. 2006, 2009; Trap et al. 2011). The upper limit from Hornstein et al. (2007) indicates an X-ray flare whose peak occurred 36 minutes before IR observations began. Yusef-Zadeh et al. (2012) is the only work to report any time lag between the X-ray and IR with error bars. We reanalyze the seven flares presented in their work and plot the results of our reanalysis here. Five of these flares come from previously reported data sets (color coded as green, blue, magenta, and orange for Eckart et al. (2006, 2008), Dodds-Eden et al. (2009), and Yusef-Zadeh et al. 2009 respectively) and two come from a previously unreported data set (plotted in gray). The significance of the X-ray flares in these last two data sets is very low (see Section 4.3 of the published article).

**Table 2**  
Time Lags: Spitzer/Chandra Flares

Date	Time Lag (minutes)	68% Interval	99.7% Interval
2016 Jul 12	$-8.2_{-6.0}^{+7.7}$	(-14.2, -0.5)	(-32.2, +16.8)
2016 Jul 18	$-16.9_{-5.5}^{+7.3}$	(-22.4, -9.6)	(-34.4, +27.6)
2017 Jul 15	$-6.4_{-13.5}^{+5.5}$	(-19.9, -0.9)	(-52.4, +7.6)

**Note.** Negative values mean X-ray leads IR. Uncertainties on the time lag in the first column span the 68% confidence interval on the 10,000 MC runs. The second column displays the boundaries of this 68% confidence interval, while the third column displays the 99.7% confidence interval.

### ORCID iDs

H. Boyce  <https://orcid.org/0000-0002-6530-5783>  
D. Haggard  <https://orcid.org/0000-0001-6803-2138>  
G. Witzel  <https://orcid.org/0000-0003-2618-797X>  
S. P. Willner  <https://orcid.org/0000-0002-9895-5758>  
J. Neilsen  <https://orcid.org/0000-0002-8247-786X>  
J. L. Hora  <https://orcid.org/0000-0002-5599-4650>  
S. Markoff  <https://orcid.org/0000-0001-9564-0876>  
G. Ponti  <https://orcid.org/0000-0003-0293-3608>  
G. Fazio  <https://orcid.org/0000-0002-0670-0708>  
P. Lowrance  <https://orcid.org/0000-0001-8014-0270>  
M. R. Morris  <https://orcid.org/0000-0002-6753-2066>

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