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Following the MAXI/GSC alert of the newly discovered X-ray transient MAXI J1803-298 (ATel #1458; see also ATels #14588, #14591, #14594, #14597, #14598, #14601, #14602) and subsequent to the observations reported in ATel #14606, the Neutron Star Interior Composition Explorer (NICER) has continued observing the outburst.

Since the last NICER report (ATel #14606), NICER has monitored MAXI J1803-298 for an additional 57 ks over the time period May 18 17:58 UTC to May 25 11:24 UTC. No further X-ray dips have been seen. Midway through this recent interval, from May 21 onward, we detect the presence of a low-frequency Type-B QPO at ~6 Hz along with a broad sub-harmonic at ~3 Hz.

As an example, in the linked Figure, we present one representative 1.4 ks NICER observation. The 0.3-12 keV PDS continuum follows a broken power law and the QPO and its sub-harmonic have been fitted as two Lorentzian components. The fractional rms amplitude of the QPO and sub-harmonic in the example shown are, respectively, 1.8+/-0.3% and 1.5+/-0.3% at 90% confidence. The corresponding Q-factors are ~10 and ~2, respectively. Over the several days of monitoring, the fundamental frequency is variable, observed to move between ~6.5 Hz and ~5 Hz. The final few observations on May 24-25 show only intermittent presence of the QPO, perhaps indicating evolution in the source. This recent detection of a Type-B QPO reveals that the source has remained in an intermediate "Steep Power Law" (SPL) state for an extended period of time. We confirm this spectroscopically.

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The associated energy spectrum of the system has been fitted from 0.25-12 keV with an absorbed Comptonized disk-blackbody model (tbabs * simpl x diskbb), with Nh = 3.3e21/cm^2. During the May 21-24 period with the prominent QPO, the spectrum of MAXI J1803-298 is generally consistent with the properties of the SPL state, i.e., the photon index is high, Gamma ~ 2.7-2.9, and the disk component is prominent and hot (kT ~ 0.5-0.6 keV), but the scattering fraction is somewhat larger than typical, f_sc ~0.6-0.8. Data obtained on May 25 show a hotter disk component (kT ~0.8 keV) and somewhat steeper power-law Gamma >~3.

MAXI J1803-298 Power Density Spectrum on May 22

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