

Abstract

The source 4U 1812-12 is a persistent, weakly variable low-mass X-ray binary containing a neutron star. The source was observed by *NICER* between 2019 and 2021 and, more recently, by *NuSTAR* in 2025. During the *NICER* and *NuSTAR* observations, the source was detected in a hard spectral state with a bolometric luminosity of $\sim 1.90 \times 10^{36}$ ergs s $^{-1}$. Its 3 – 70 keV *NuSTAR* spectrum is characterized by a soft thermal emission from the disc, a hard Comptonized emission from the corona, and its reflection from the accretion disc. The *NuSTAR* energy spectrum exhibits the clear presence of disc reflection features, fitted using a self-consistent relativistic reflection model `relxill`. Our reflection modeling indicates a moderately ionized accretion disc ($\log \xi \sim 2.72$) extending close to the neutron star surface ($R_{in} 1.72 R_{ISCO}$), and viewed through a small inclination angle ($i \sim 25$ degrees). Assuming that the magnetic field (B) truncates the disc, we found $B 2.54 \times 10^8$ G, comparable to the typical values observed for NS LMXBs. The 1.0–9.5 keV *NICER* spectra are also characterized by a soft thermal component and a dominant hard Comptonized component. During *NICER* observations, the disc temperature exhibits a small variation within $\sim 0.69 - 0.84$ keV. In contrast, the power law photon index, Γ , exhibits a large variation of $\sim 0.8 - 1.5$, implying a substantial change in the Comptonized emission. Moreover, *NICER* timing analysis reveals broadband aperiodic variability with significant QPO-like features at 0.379 ± 0.008 Hz and 0.724 ± 0.025 Hz, having fractional rms amplitudes of $2.9 \pm 0.6\%$ and $4.1 \pm 0.5\%$, respectively.