

## ADDENDUM: "AN X-RAY SPECTRAL MODEL FOR CLUMPY TORI IN ACTIVE GALACTIC NUCLEI" (2014, ApJ, 787, 52)

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The model discussed in Liu & Li (2014) is available on NASA's HEASARC XSpec model site, https://heasarc.gsfc. nasa.gov/xanadu/xspec/models/Ctorus.html.

It is an X-ray spectral model for clumpy tori in active galactic nuclei, which is the output spectrum of a clumpy torus illuminated by the central active galactic nuclei.

The incident X-ray spectrum from the central active galactic nuclei is a power law. The half-opening angle of the torus (the envelope of clouds) is fixed at  $60^{\circ}$ . This model can be applied in 1.0–450 keV and includes three parts, i.e., transmitted

component (Ctorus\_T.fits), reflection component (Ctorus\_R.fits), and fluorescent lines (Ctorus\_L.fits).

Please see the explanation and usage of this model on the above webpage. The material was last updated in 2016 May.

## REFERENCE

Liu, Y., & Li, X. 2014, ApJ, 787, 52