

# Interpreting the Suzaku Spectra of MCG–6-30-15 without Invoking a High Black-Hole Spin

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## ABSTRACT

In order to assess the reality of the extreme Kerr black-hole interpretation of MCG–6-30-15 by Miniutti et al. (2007), we re-analyzed the Suzaku XIS and HXD data of this Seyfert galaxy obtained in January 2006. Through intensity-sorted spectroscopy, we discovered a very hard component that varies independently of the dominant power-law emission. This new component, dominant in the 10–30 keV range, can be modeled in several different ways; e.g., a thermal Comptonization emission with a large optical depth, or a partially-absorbed power-law with a photon index of 2. When this component is included in the fitting model, the time-averaged 2.5–55 keV spectrum of MCG–6-30-15 can be reproduced successfully by invoking a moderate reflection coming approximately from a flat plane. At the same time, the best-fit iron-line broadening reduces to a level where the emission region is located at  $> 8 R_g$  from the central black hole. Therefore, the super-massive black hole in MCG–6-30-15 is not required to be in the extreme Kerr condition.