# A *Chandra* HETG Observation of H 1821+643

Taotao Fang, David S. Davis, Claude R. Canizares, Herman Marshall, Julia Lee, Greg L. Bryan (*MIT*)

## Abstract

We reported a *Chandra* HETG observation of a low redshift quasar H 1821+643 ($z = 0.297$). An iron emission line is detected at $6.435 \pm 0.041$ keV (quasar rest frame). The disk-line model provides acceptable fit, but we cannot rule out the contributions from a putative torus. We also marginally detect a emission line at around 6.9 keV. The *HST* and *FUSE* observations showed a total of 6 O VI intervening absorption systems. No O VII or O VIII absorption is detected at above $3\sigma$ level, and we place the upper limits of their column densities. By assuming collisional ionization, we place the temperature constraint ($10^5 < T < 10^6$ K) on one of the absorption systems with $z \approx 0.1214$. This is in accord with cosmological simulations that predict most of these O VI absorbers are located in the filaments that connect the virialized regions and has been shock-heated to temperatures about $10^5$ K.

CATEGORY: ACTIVE GALAXIES AND QUASARS