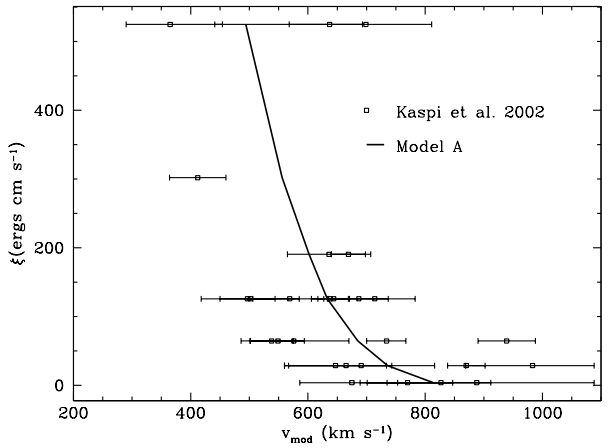

Fig. 8. Relationship between the ionization parameter and velocity. The solid line is the theoretical prediction for model A. The open squares with error bars are points with velocities taken from Kaspi et al. (2002), for the group of lines compared in Figure 5.

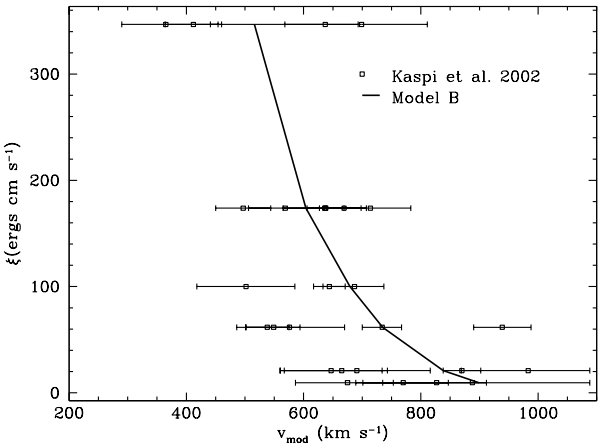

Fig. 9. Relationship between the ionization parameter and velocity. The solid line is the theoretical prediction for model B. The open squares with error bars are points with velocities taken from Kaspi et al. (2002), for the group of lines compared in Figure 7.

two phases; one at high ionization and high temperature log $T \sim 5.98$ (HIP) and one at low ionization and temperature log $T \sim 4.41$ (LIP), finding good agreement between the modeled equivalent width (EW) and the measured one for a set of absorption lines (see Figure 9 of Krongold et al. 2003). They set each of these phases at a single outflow velocity of $\sim$750 km s^{-1}, assuming spatial coexistence of the two absorbers. The approach was similar to that from Netzer et al. (2003), but in the latter they used three components in pressure equilibrium, with two kinematic components each.

One property of our model is the capability of allowing the possibility of establishing[2] a relationship between the ionization and the kinematics of the gas based on a radiatively accelerated wind. Figures 8 and 9 show this relation for models A and B, respectively. These plots show the predicted relationship between the observed velocities and the ionization parameter. While absorption from highly ionized ions originates from low-to-intermediate (200–600 km s^{-1}) velocities, lines from lower ionization stages are formed at intermediate-to-high velocities (600–1000 km s^{-1}).

5.2. *Far-UV and UV absorbers*

The relationship between the X-ray absorption spectrum and the UV absorption spectrum is at present a subject of controversy. Kraemer, Crenshaw, & Gabel (2001) and Gabel et al. (2003, 2005) have analyzed de UV spectrum of NGC 3783. HST/STIS and FUSE spectra show absorption troughs from the low order Lyman series (i.e. Lyα, Lyβ, Lyγ), C IV $\lambda\lambda$1548.2, 1550.8, N V $\lambda\lambda$1238.8, 1242.8, O VI $\lambda\lambda$1032, 1038. All these lines are seen in three kinematic components at -1365, -548, and -724 km s^{-1} (components 1, 2 and 3 respectively). A weak fourth component is reported by Gabel et al. (2003, 2005) at -1027 km s^{-1}. Figure 10 shows the spectrum predicted by model B in the range 700–1700 Å. It is clear from this figure that lines due to the low order Lyman series, He II, C IV, N V, O VI, and Ne VIII would be

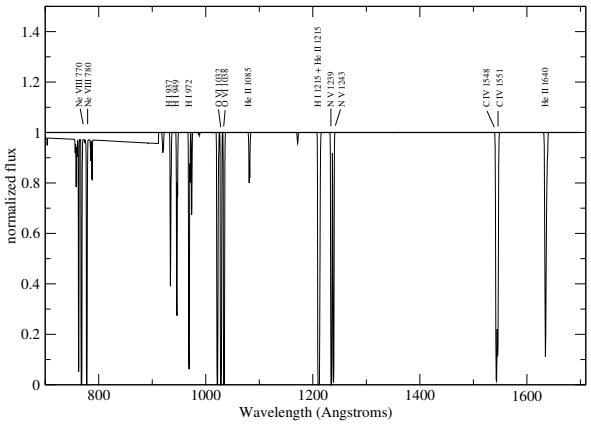

Fig. 10. Predicted UV spectrum by model B (in the range 700–1700 Å). These absorption lines are formed by the faster (or at lower ionization parameters) clouds of model B, i.e., $\log \xi = 0.12, -0.65$. Most of these lines are found in real UV spectra of AGN.

[2]We explicitly state *allow the possibility*, since the limited resolution of the telescope does not allow us to go beyond this possibility.