

Figure 3-2

This figure shows the fractional abundance curves as a function of the log (base 10) of the ionization parameter, U . Shown are the curves for four relevant ions (H^0 , Al^{+2} , C^{+3} , and O^{+5}), with varying values for the total hydrogen column density $N(H)$, (10^{18} , 10^{19} , and 10^{20}), calculated by CLOUDY for a uniform plane parallel slab. We have plotted the values both for the front of the slab (solid line) and for the back of the slab (dotted line). For the lowest column density, the fractional abundances are essentially the same throughout the slab, but the difference between the front and back increases at higher $N(H)$. In the bottom plot, we get a large fraction of neutral hydrogen at low U at the back edge. Note that at high ionization levels, $\log(U) \gtrsim -2$, the curves are very similar even at the higher values of $N(H)$, due to the lack of neutral hydrogen.