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Echelle spectroscopy data have been taken of the quasar 0000-263 on the 4m telescope at CTIO in Chile. Three nights of red and three nights of blue data were obtained (about four hours data per night). The resolution is typically  $0.4 \text{ \AA}$  at  $5000 \text{ \AA}$  ( $\lambda/d\lambda = 12500$ ) and has good signal-to-noise over the wavelength range  $4600 \text{ \AA}$  to  $8000 \text{ \AA}$ .

To keep the statistics manageable the data were not rebinned, although the instrument was stable enough for each night's data on the object to be co-added. Arc spectra taken between each exposure were also co-added within the nights. During profile fitting the model was convolved with a Gaussian whose width was equal to nearby arc lines, so any broadening generated by the co-adding of data will not affect the final results.

Since O I and H I have the same ionisation potential (13.6 eV),

$$[\text{O} / \text{H}] \sim [\text{O I} / \text{H I}].$$

Unfortunately, in this data only the  $1302 \text{ \AA}$  O I transition is visible, and it is blended with H I in the Lyman Alpha forest. However, O I and N I coexist (the ionisation potential for N I is 14.5 eV) and so the N I triplet can constrain the redshift and turbulent width of the O I.

When a fit was made to the regions containing O I and N I absorption three systems were apparent with similar redshifts and velocity widths. These three systems were fitted with tied redshifts and turbulent widths, while the other lines in the region were fitted as Lyman-Alpha.

The saturated Lyman-Alpha profile was then fitted with three components at the same redshifts as these observed lines, with the line widths tied. (To do this the measured values and errors for O I and N I are taken into account: the difference between these and the fitted values contribute to the chi-squared statistic when fitting H I.)

Finally, metallicity ratios for the individual lines and their totals were calculated and compared to solar values.

The results for the separate clouds are (from low to high redshift):

$$-2.9 \pm 4.8$$

$$-0.4 \pm 5.6$$

$$-3.3 \pm 0.7$$

and for the total:

$$-2.5 \pm 4.2$$

where the values are dex relative to solar.

All of these results are consistent with the most accurate, and since the O I detection may be partly H I we obtain the limit:

$$[\text{O I} / \text{H I}] - [\text{O I} / \text{H I}]_{\odot} \lesssim -3$$

Since this poster was presented the metal lines have been re-fitted using Si II as an additional constraint. Further observations will cover O I,  $1039 \text{ \AA}$ , and possibly Lyman-beta, giving more accurate results.

The following people have observed, donated telescope time, or helped reduce this data: Bob Carswell, Jack Baldwin, Gerry Williger, Dave Turnshek and Ken Lanzetta.