

METALLICITY IN HIGHLY ACCRETING QUASARS

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We present an analysis of UV spectra of quasars at intermediate redshifts believed to belong to the extreme Population A (xA) quasars, aimed to estimate the chemical abundances of the broad line emitting gas. We follow the approach described in Sniegowska et al. 2021, and we extend their sample to 42 sources. The basis of our analysis are multi-component fits made with the IRAF specfit routine in three regions of the spectra centered at 1900, 1550 and 1400 Å in order to deblend the broad components of Al III, C III], C IV, HeII and Si IV + O IV] and their blue excess. By comparing the observed flux ratios of these components with the same ratios predicted by photoionization code Cloudy we found that the virialized clouds (broad components) present a metallicity higher than $10Z_{\odot}$ while for non-virialized clouds we derive a lower limit to the metallicity around $\sim 5Z_{\odot}$ under the assumption of chemical composition proportional to the solar one, confirming the previous results obtained by Sniegowska et al. (2021). We also reach out for correlations between physical parameters and flux ratios finding out a connection between BLUE C IV and BLUE Si IV + O IV].