abundances were obtained using Kurucz’s model atmospheres and the near-UV lines of Cu i 3273.95 Å and Zn i 3302.58 Å observed at high spectral resolution. The trend of [Zn/Fe] vs. [Fe/H] is essentially solar for [Fe/H] > −2.0 and then slightly increases at lower metallicities to an average value of ⟨[Zn/Fe]⟩ = +0.18, whereas the [Cu/Fe] trend is approximately constant down to [Fe/H] ̃~ −1 and then decreases at lower metallicities reaching a plateau around [Cu/Fe] ̃~ −0.95 for [Fe/H] < −2.5. We compare our results with previous work on these elements and briefly discuss them in terms of nucleosynthesis processes. A paper will be submitted to A&A.

Lithium Abundances in Extremely Metal-Poor Stars

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Abstract. We present preliminary lithium abundances for 21 turnoff stars in the range −3.6 < [Fe/H] < −2.5, observed with VLT/UVES. Effective temperatures were derived by fitting the wings of the Hα lines. In 5 stars, Li is depleted by modest to large factors, while the remaining 16 stars define a very tight relation in the [Fe/H]–A(Li) plane. The sample has mean lithium abundance A(Li) = 2.30 with a dispersion of 0.08 dex. The relation exhibits a significant slope (0.17 ± 0.05), which cannot be simply interpreted as due to Li production in the early Galaxy: extrapolation to [Fe/H] = −5.0 implies A(Li) = 1.94, while the A(Li) implied by the WMAP baryonic density is A(Li) = 2.66 and the minimum abundance predicted by BBN is A(Li) = 2.05. More likely explanations of the steep slope are: 1) systematic errors in our analysis, 2) observational bias, or 3) metallicity-dependent atmospheric effects which alter the Li abundance. The data also show trends of increasing [Fe/H] and A(Li) in the apparently brighter stars, which could be partly due to observational bias. Accordingly, we defer a full discussion of the slope of the [Fe/H]–A(Li) relation until these effects are fully understood.

Spin Temperature in High Redshift DLAs

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Abstract. We present results from recent deep searches for H i 21cm absorption in high redshift Damped Lyman-alpha systems (DLAs). 21cm observations, coupled with measurements of the total H i column density from the Lyman-alpha line, allow one to estimate the average spin temperature T_s of the neutral hydrogen in the DLA. In most astrophysical circumstances, the spin temperature is the same as the kinetic temperature, for a single homogeneous H i cloud. In a heterogeneous medium, the average spin temperature allows one to estimate the fractional H i content in different temperature phases (i.e. WNM and CNM). We discuss the variation in the average spin temperature with redshift, as well as morphology of the optical counterpart. Dwarf galaxies are known to contain a