

# NLTE study of oxygen abundances in solar-type stars

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- O I 7773 triplet: The NLTE model for O I is verified by a consistency check using stellar O I 7773 lines.  $\rightarrow$  Hydrogen collisions are negligible.  $\rightarrow$  Appreciable NLTE effects in the Sun ( $\sim 0.15$  dex) and especially in F type stars ( $\sim 0.3$  dex).
- Revised photospheric oxygen abundance:  $\log \varepsilon_{\odot} = 8.80 \pm 0.06$ .
- $[\text{O}/\text{H}]_{7773} \sim [\text{O}/\text{H}]_{6300}$ .  $\rightarrow$  Confirmation of adopted effective temperatures ( $T_{\text{eff}}$  derived from Balmer line profiles).
- Thin disk stars with  $[\text{Fe}/\text{H}] > -0.1$ :  $[\text{O}/\text{Fe}] = 0.01 \pm 0.06$  in the average; no significant trend of  $[\text{O}/\text{Fe}]$ .
- Halo stars:  $[\text{O}/\text{Fe}] \sim 0.8$  upper limit (in our sample where  $[\text{Fe}/\text{H}]_{\text{min}} \sim -2.3$ ). Flat  $[\text{O}/\text{Fe}]$  slope for  $[\text{Fe}/\text{H}] < -0.7$
- $[\text{Mg}/\text{O}] \sim -0.2$  in the halo agrees with theoretical SN II yields from massive progenitors ( $M > 30 M_{\odot}$ , Nomoto *et al.* 1997)

