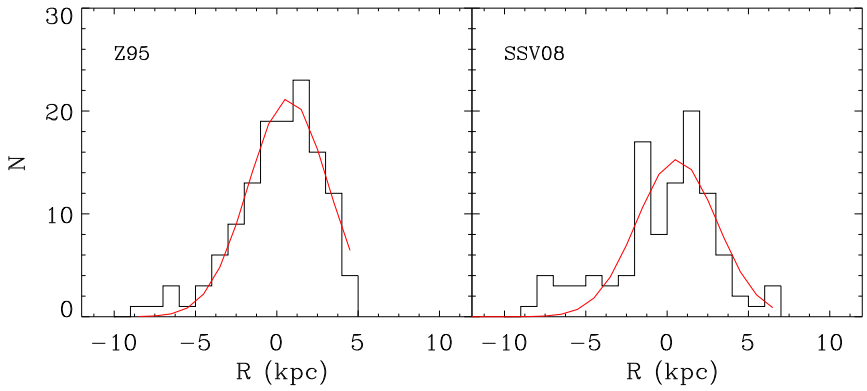

Fig. 1. Galactocentric distance distribution for the Z95 distance scale (left) and for the SSV08 distance scale (right). For each histogram a Gaussian fit is shown (see the text for more details).

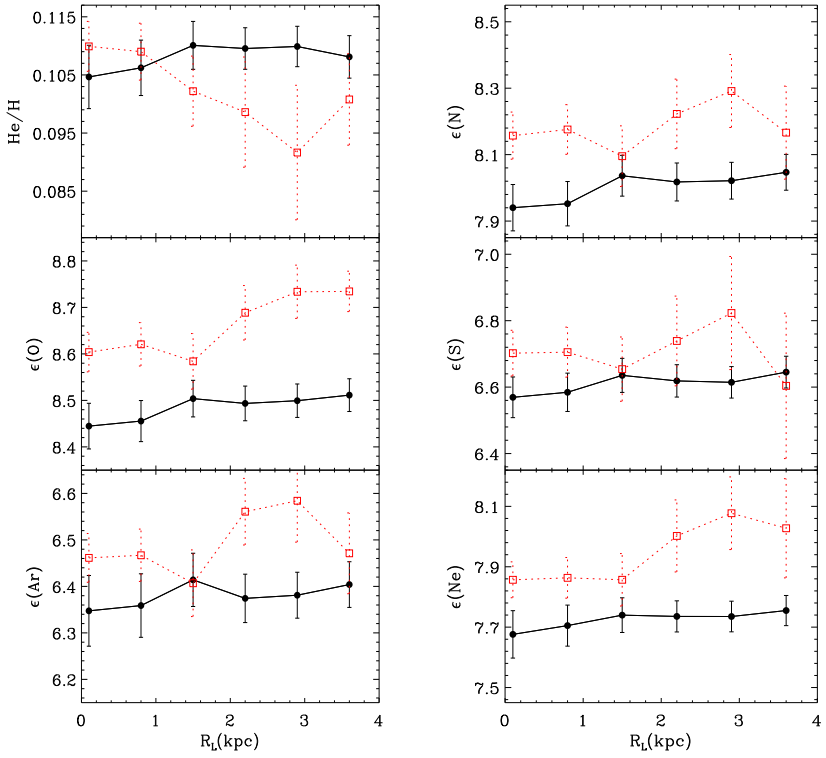

Fig. 2. Average abundances of PNe of Group I (circles joined by continuous lines) and Group II (squares joined by dashed lines) for the SSV08 distance scale. The abscissa gives the limiting galactocentric distance R_L, considered to be in the range 0–4 kpc. Error bars indicate the standard error of the mean for each subsample.

and in the galactic disk, and (b) helium does not show any measurable radial abundance gradient, in contrast with the remaining elements considered in this paper. (See a detailed discussion of the helium gradient in Maciel 2000).

Examining Figure 2 we see that for the α-elements oxygen, sulfur and argon the differences between both samples reach a minimum between 1.5 and 2.5 kpc, where it is of the order of 0.1 dex or lower. In Figure 3, examining now the α-elements, we see that a minimum difference appears around 1.5 or 2 kpc. For neon, the abundance difference between the groups is of the order of 0.2 dex, while for the other elements this difference is of the order