O, S, Ar FROM PLANETARY NEBULAE DATA AND THE CHEMICAL EVOLUTION OF THE GALACTIC DISK

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The O, S, Ar abundances for a sample of 122 planetary nebulae (merging LNA data and those by Köppen, Acker and Stenholm 1991) were analysed. Average abundances were calculated for progenitors having different metallicities (ages). Our study suggests that type I planetaries, whose progenitors are not older than 1-2 Gyr, have average oxygen abundances 0.2 dex lower than the solar value. This agrees with O-abundance determinations in HII regions, intermediate mass supergiants and B stars in young associations. S and Ar show a different behaviour. We suggest that such a paucity of O in the ISM is produced by recent infalling gas from the halo, having abundance ratios similar to those expected from type Ia supernovae.