Chemical composition of planetary nebulae. The abundance discrepancy problem

It is important to determine the composition of the ejecta of intermediate mass stars to understand the internal processes of the parent star, as well as to establish the chemical evolution of the Galaxy. Traditionally the composition of gaseous nebulae have been determined from bright collisionally excited lines, which are realtively easy to mesaure. However there is the persistent problem of a discrepancy on the abundance determinations when they are based on faint recombination lines. The difference between both methods is called the abundance discrepancy problem. I will discuss some of the work that has been carried out about this issue.

Silvia Torres-Peimbert Instituto de Astronomía Universidad Nacional Autónoma de México