

1. **What has occurred to change the solar abundances of metals that these authors consider? I.e., what has been done recently by other authors to provide new abundances (less heavy elements) for the Sun.**

The lower abundances of lighter metals were derived when other authors started analyzing three-dimensional models, and started to consider hydrodynamic effects and “uncertainties in the atomic data and the observed spectra.”

2. **How accurate were the “old” models compared to helioseismology of the sound speed in the interior before these new abundances were introduced?**

Before the new models with different abundances of heavier elements were introduced, the radial profiles of sound speed and density for the models agreed well with helioseismological observations.

3. **What is the reason, or point, of the BP+xx% models, where xx is some number? What are the authors trying to do with such models?**

The BP+21% model was included to address the “convection zone problem”: If the tabulated OPAL opacity near the tachocline (base of convective envelope) was increased by 21%, the new models would reproduce the measured depth of the convective zone.

4. **What is the fuss over the “abundance problem”? (do you think)**

Study of the sun helps us to understand several things, such as the origin and evolution of our solar system (specifically the material from which it formed), properties of other stars, and even stellar populations of other galaxies. Since so much of our understanding of the universe is based on what we know about the sun, it is important to be as accurate as possible when deriving its properties.