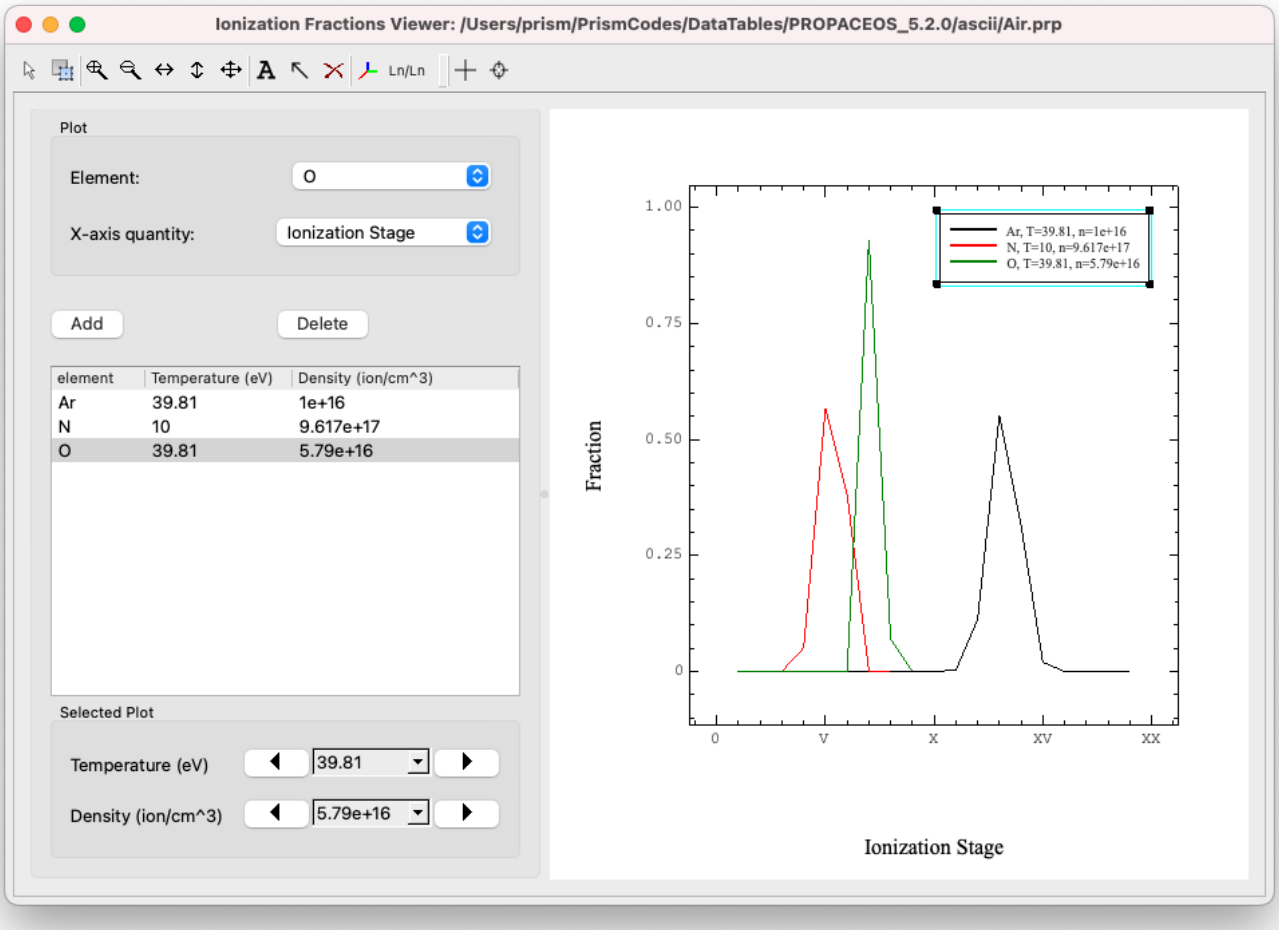
Revisions for PrOpacEOS 9.5.0

- Improved continuum lowering model where the electron density and the amount of IPD are determined self consistently with a combination of iteration and bisection techniques was implemented. This model can significantly affect ionization balance, especially for low temperature plasma. More details on the model can be found in the appendix of the main documentation.
- Improved consistency in modeling IPD for mixtures of elements.
- New block matrix population solver for large atomic systems has been implemented. For atomic models containing over 20000 levels, the new solver is expected to use significantly less memory, and be faster by at least a factor of few. More details on the model can be found in the appendix of the main documentation.
- Improved models for ion contribution for Stark broadening. Previously, the effect of ion contribution could have been significantly overestimated at lower densities.
- Added support for new distribution of FAC atomic dada (v. 1.5.0U).
- Updates were made to better support graphics on high-resolution monitors.
- Ionization Fraction results can now be plotted, either by pressing the *Ion Fractions* button on the left side of the *Main Window*, or by selecting the *Display | Ion Fractions Data* menu item. They can be plotted vs. Ionization Stage (giving an ionization distribution), or for a given stage vs. temperature or density. The interface uses a new plot window:



- Bug fixes:
  - Previously, very large tables could cause a GUI crash when trying to plot opacities directly after running a calculation. This has been fixed, and plotting will not be allowed if the results do not fit in memory.
  - Fixed bug that occurred when reading in old *PROPACEOS* results after performing a *PROPACEOS* simulation that had a different frequency group structure than the old data file.