

Revisions for PrismSPECT v. 12.0.0

- The code is built on Apple M-series silicon chips. Computers with Intel processors are no longer supported.
- The option to write *PrismSPECT* workspaces with the older non-JSON format has been removed. Previously created non-JSON workspaces can still be read in.
- In *Preferences*, the option to include MERL lineshapes databases has been added. If this box is checked, transition linewidths will be overridden by those that exist in the MERL database, provided that database is installed in the atomic data directory being used. To request ATBASE- or FAC-specific MERL databases, please contact Prism. More information can be found in appendix titled "Stark Broadening".
- Several improvements in modeling dense plasma effects on atomic kinetics, line shifts, and photoionization edges. More information can be found in appendix titled "IPD and polarization shift".
- 2D plot windows now support mouse wheel zooming centered on the cursor position.
- Support for augmenting the spectral grid used in calculations with additional photon energy points has been added. On the *Spectral Grid*, points are entered using a table. This option is designed to allow users to obtain enhanced resolution around spectral features of interest.
- In the *Ionization Viewer*, mousing over an atomic level will now display a tooltip showing the level index. This will be the same index which appears in the transitions table for spectra.
- In the *Spectral Viewer*, options for display intensities and time-integrated intensities in units of per keV and per nm have been added.
- Specifying *Data Directories* in *Preferences* has been updated. Using environment variables on Windows to obtain default locations for atomic data, and equation of state, and opacity libraries has been removed. Users set the location of the data libraries by browsing for the relevant directory. A history of the data directories utilized is now stored, so that users can more easily change data directories (*e.g.*, changing between FAC and ATBASE atomic data).
- The *Data Directories* in *Preferences* are now written to the workspace file. When reading in a workspace file, if the data directory names in the workspace file are different from those in *Preferences*, a message is displayed, notifying the user that if a calculation was previously run using this workspace, running a new may lead to different results due to using the different databases.
- In *Preferences*, options for setting intensities and time-integrated intensities in units of per keV and per nm have been added in the *Spectral Lines Plots* tab.
- The ability to specify the external radiation field, when using the *Table* model, in units of #photons/cm²/s/eV has been added (previously, only J/cm²/s/eV was used). This is supported for both state-state and time-dependent calculations.
- When viewing plot results, the number of significant figures shown when using the *Show Data* or *Show Coordinates* tools can be adjusted by right-clicking in the data box.
- Bug fixes:
 - Fixed element string error that could occur in DCA Atomic Elements list when D, T, or He3 isotopes are utilized.
 - Fixed error in storing axes units in *Preferences*.