

# Available tools

The VESPA infrastructure makes use of various tools often maintained by external developers, most of which predate VESPA.

The most closely related tools are:

- [Aladin](#) (images and cubes)
- [CASSIS](#) (spectra)
- [TOPCAT](#) (tables and more)
- 3Dview (various data types viewed in relation with spacecraft trajectories)
- [MATISSE](#) (various data types viewed in relation with 3D shape models) - current (2020) link is <https://tools.ssdsc.asi.it/matisse.jsp>
- AMDA viewing tool (space plasma physics data)
- SSHADE viewing tools (spectroscopy data)
- [APERICubes](#) (PDS spectral cubes)
- Planetary Cesium Viewer (Install & doc: [3D viewer of images and cubes](#)) - link [here](#)
- [iPECMAN](#) : Interface for a multi-component spectral analysis of plasma waves

All of which benefit from direct inclusion in the VESPA activity.

VESPA issued requests for specific developments to other VO-compliant tools (sometimes in the past):

- SPLAT-VO (spectra and vectors)
- VOspec (spectra)
- SpecView (spectra and dynamic spectra)
- Mizar and SITools2 (3D viewer of images and cubes)

In addition to these, an effort is made to connect or adapt existing tools for use with VESPA and the VO.

These currently include:

- [WebGeoCalc](#) (inputs for VO connectivity, being implemented at JPL)
- [Cosmographia](#) (use case with spice kernels computed by DynAstVO, not interactive)
- [ImageJ](#) (SAMP input plugin and better fits support at ObsParis)
- QGIS ([SAMP and VO connectivity](#) at JacobsUni, [fits interface](#) at GEOPS)
- Autoplot (installation of SAMP to retrieve time-related data from VESPA, at Iowa Univ. Must be launched from terminal, apparently)
- JHelioViewer (<https://www.jhelioviewer.org/>) pending SAMP and TAP interfaces (solar 3D viewer + time series)

## Evolution of SAMP

SAMP connexions over https used to be blocked by most browsers, but this is no longer true - depending on the browser in use.

See this page for evolutions and tests: <https://wiki.ivoa.net/twiki/bin/view/IVOA/WebSampHttps>