

## Vissage: viewing polarisation data from ALMA

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**Abstract.** Vissage<sup>1</sup> (*VISualisation Software for Astronomical Gigantic data cubEs*) is a Java-based standalone FITS browser (Kawasaki et al. (2013); Kawasaki et al. (2014); Kawasaki et al. (2017)), primarily aiming to offer easy visualisation of huge, multi-dimensional FITS data from ALMA. We report our recent implementation of its new capabilities of viewing polarisation data.

### 1. Introduction

Some of ALMA FITS data that have been published in the recent years contain polarisation information other than Stokes  $I$  image. In addition to Stokes  $Q$  and Stokes  $U$  images, some datasets contain Stokes  $V$ , linearly polarised intensity ( $= \sqrt{Q^2 + U^2}$ , hereafter POLI) and polarisation angle ( $= (1/2) \tan^{-1}(U/Q)$ , hereafter POLA) images. Though these archive data should be useful, software tools to view polarisation FITS data, especially free ones, seem to be very rare or not exist.

We have been developing Vissage as a new generation FITS viewer to compensate JVO(Japanese Virtual Observatory)’s quick-look capability (FITSWebQL). Vissage has capability to show variety of images of FITS files downloaded to user’s local environment. This time, still in a primitive shape, we have added user interface to Vissage so that users can easily view available polarisation images.

### 2. Viewing Polarisation Images

It is very simple. All you need is to drop files and to select value in a polarisation menu.

### References

- Kawasaki, W., Eguchi, S., Shirasaki, Y., Komiya, Y., Kosugi, G., Ohishi, M., & Mizumoto, Y.  
2013, in ADASS XXII, vol. 475 of ASP Conf. Ser.  
— 2014, in ADASS XXIII, vol. 485 of ASP Conf. Ser.

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<sup>1</sup>available from <http://jvo.nao.ac.jp/download/Vissage>

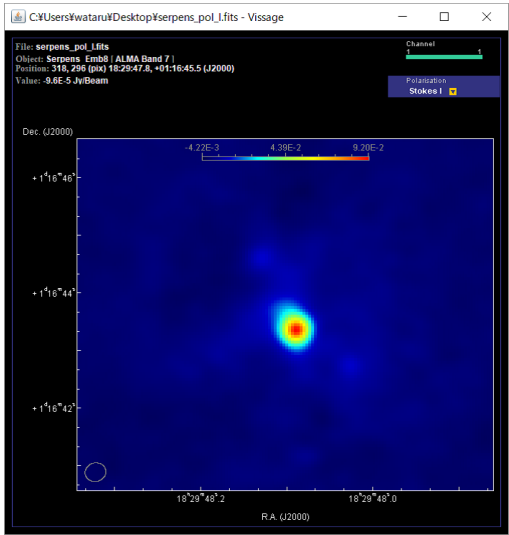


Figure 1. Showing polarisation indicator above image.

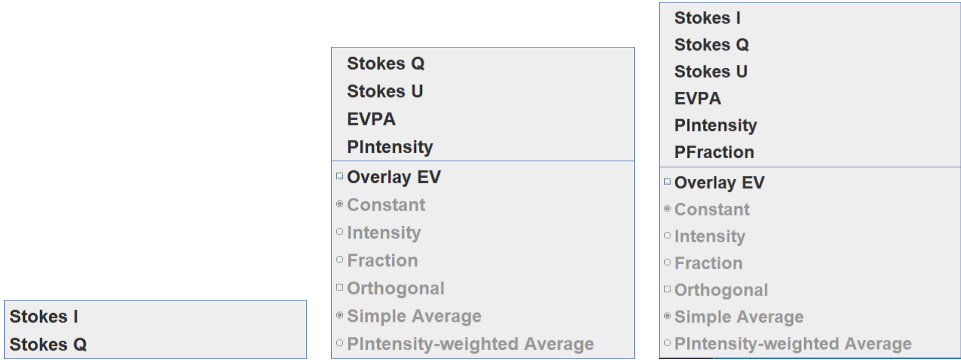


Figure 2. Polarisation menus when Stokes I and Q images are dropped (*Left*), Q and U dropped (*Middle*) and I, Q and U dropped (*Right*), respectively.

Kawasaki, W., Shirasaki, Y., Zapart, C. A., Kobayashi, T., Kosugi, G., Ohishi, M., Mizumoto, Y., Eguchi, S., Komiya, Y., & Kawaguchi, T. 2017, in ADASS XXV, vol. 512 of ASP Conf. Ser.

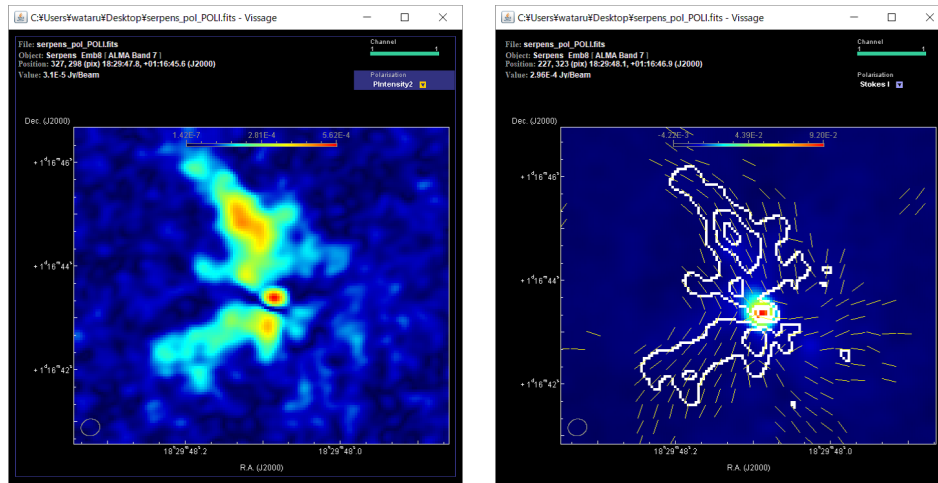


Figure 3. *Left:* Linear polarised intensity map. *Right:* Stokes I (colour) + polarised intensity (contour) + polarisation vector (90deg rotated).