ALMAWebQL v2: a modern interactive client-server architecture for fast previewing of large ALMA datasets

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Overview

Increasingly large ALMA datasets (i.e. 10GB) cannot be analysed easily on an average end-user PC due to insufficient RAM and long download times. The ALMA WebQL Quick Look service allows users to preview datasets in a web browser, zoom-in to an area of interest (in space and frequency) and then download the selected subregion as a smaller FITS file for local processing by the end user (for example in SAOImage DS9 or JVO Vissage).

The revised ALMAWebQL v2 features an improved user interface and faster response times. The latest version 2.2 gives a choice of different colourmaps, printing support (works best in Firefox), automatic integration with the Lovas molecular database, autoscale/fixed Y-Axis, synthesized beam overlay and manual reference frequency/source velocity corrections.

Features

- a rich Internet application built on AJAX, HTML5 and SVG
- a custom web server built on top of the GNU libmicrohttpd C library
- an interactive preview of ALMA datasets (even 25GB large) on low-spec client PCs
- real-time zooming, easy selection of frequency sub-range
- real-time frequency spectrum updates
- partial FITS download of a selected area of interest
- HiDPI display support with automatic image/font rescaling
- spectral lines (NIST Lovas, Splatalogue)

Where To Find It?

In the Japanese Virtual Observatory portal (http://jvo.nao.ac.jp/portal/top-page.do or Google "JVO Portal") go to the "ALMA FITS Archive", select any ALMA dataset and click on "WebQLv2"

FITS CUBE: Interactive Zoom-In/Out
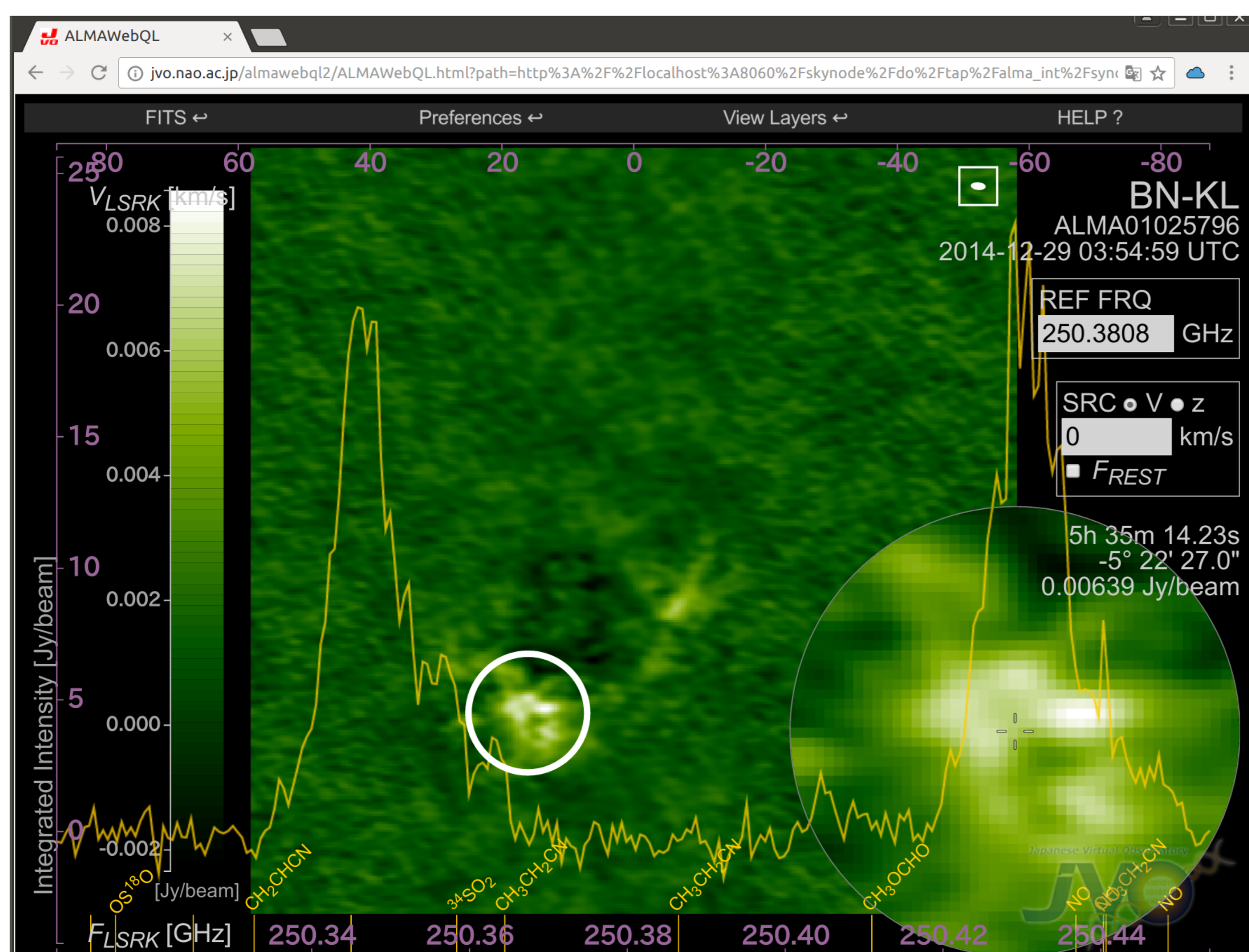
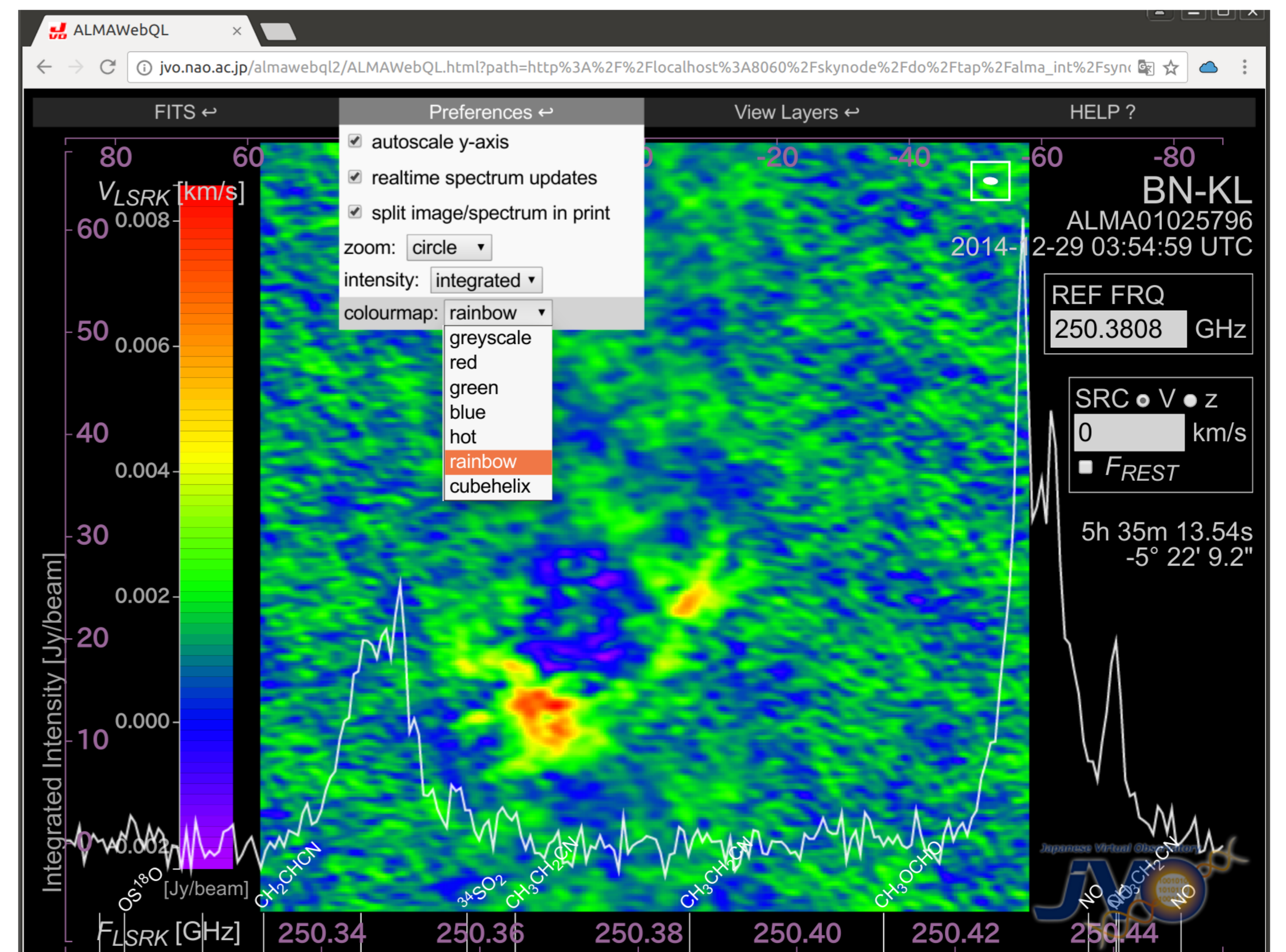## FITS CUBE: Frequency Range Cut-Out
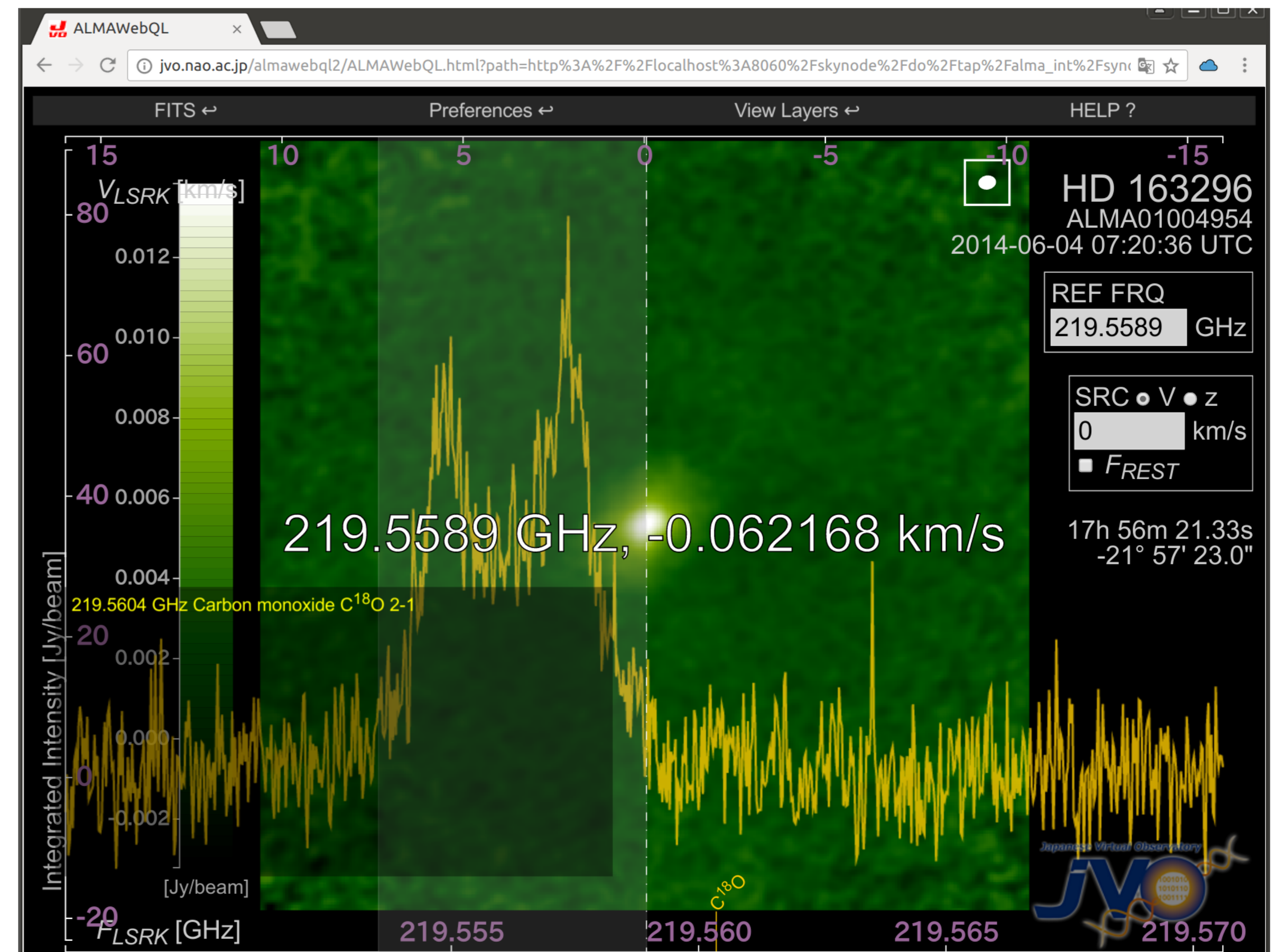
User Interface: Different Colourmaps

Spectral Lines: NIST Lovas integration

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