



Latest developements in data visualization in the web with H5Web

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H5Web is a web-based viewer for HDF5 files written in React with WebGL visualisations

It supports the **NeXus** standard



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Previous presentations at HUG showed:

- The rationale behind the project
- The JupyterLab extension that brings HDF5 browsing to notebooks

DEMO HIGHLIGHTS

- ✓ Browsing and inspecting
- ✓ Displaying nD datasets with Line, Heatmap and Scatter (WebGLbased visualisations with react-three-fiber and visx)
- ✓ **Visualisation controls**: color map, limits, axis scales, etc.
- ✓ Support for NeXus: default plot, signal interpretation, custom axes, etc.
- ✓ Interactions: Select to zoom, help button, dataset export, tooltip

H5WEB REQUESTS DATA TO A PROVIDER

THE PROVIDER CAN BE

Remote



THE PROVIDER CAN BE

Remote



Local (JupyterLab extension)



Personal computer

THE PROVIDER CAN BE

Remote



Local (JupyterLab extension)

And now, in the browser thanks to h5wasm !



Personal computer



Personal computer

H5WEB VISUALISATIONS CAN BE REUSED IN OTHER APPLICATIONS

Performant WebGL visualisations are available in a package @h5web/lib



In use at ESRF for

- General purpose data acquisition daiquiri
- Diffraction data acquisition braggy
- In development: tomography reconstruction (big images) Tiled vis prototype

H5WEB CAN BE USED AT SEVERAL LEVELS

- Browse HDF5 data remotely
- Browse HDF5 data locally
- Visualise data in React applications

External developements enhance the project, so if interested get in touch !

→ Discussion on Thursday (room 2, 1:45 p.m.) or h5web@esrf.fr

THANK YOU !

Some links:

- h5web: https://github.com/silx-kit/h5web
- jupyterlab-h5web: https://github.com/silx-kit/jupyterlab-h5web
- H5Web Component docs: https://h5web-docs.panosc.eu/
- npm packages: https://www.npmjs.com/org/h5web



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