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PAnTHer: an interactive map for the web and touchscreens

Thursday 5 June 2025 15:30 (2 hours)

PAnTHer (Particle Accelerator on THreejs) is a 3D and 2D map for particle accelerators developed using web and touch technologies. The maps are connected to real-time data from accelerator controls, simulators, and an external component database.

The map is generated from a lattice file in JSON format and a bundle of JavaScript components for the 3D version, and an SVG bundle for the 2D version.

The JSON lattice file can be generated on the fly taking all necessary parameters from a simulator device server and presented instantly to the remote user among with the visualization of some simulated quantities such as position, beta, eta, mu and sigma

Available components are: magnets (bending, quadrupoles, sextupoles, correctors, etc.), pumps, valves, PLCs, racks, mirrors, walls etc. Multiple components can be embedded within a single element.

The 3D version offers various configurations, ranging from a fast mode, which runs smoothly even on devices with limited computational power, to a standard mode with enhanced graphical details, and a "premium" mode that uses components derived from 3D photogrammetry. The latter requires fairly powerful hardware to maintain optimal fluidity.

Footnotes

Paper preparation format

Others

Region represented

Europe

Funding Agency

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