**IViPP: A Tool for Visualization in Particle Physics**[1] HIEU TRAN, ELIZABETH SKIBA, DOUG BALDWIN, SUNY Geneseo — Experiments and simulations in physics generate a lot of data; visualization is helpful to prepare that data for analysis. IViPP (Interactive Visualizations in Particle Physics) is an interactive computer program that visualizes results of particle physics simulations or experiments. IViPP can handle data from different simulators, such as SRIM or MCNP. It can display relevant geometry and measured scalar data; it can do simple selection from the visualized data. In order to be an effective visualization tool, IViPP must have a software architecture that can flexibly adapt to new data sources and display styles. It must be able to display complicated geometry and measured data with a high dynamic range. We therefore organize it in a highly modular structure, we develop libraries to describe geometry algorithmically, use rendering algorithms running on the powerful GPU to display 3-D geometry at interactive rates, and we represent scalar values in a visual form of scientific notation that shows both mantissa and exponent.

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