A Quick TuneDisplay Guide
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Introduction

TuneDisplay has one simple purpose – to produce a quick & convenient visual representation of ISAC tunes. This need was made obvious when it was found that for any given shift, it was difficult to spot EPICS setpoints that were off theory. Doing so became increasingly difficult the further away shifts operated from the inital beam setup.

The program produces thee operations:

1. The polling in real-time of all relevant EPICS setpoints for a given tune, and

2. The comparison of theoetical quadrupole values with those from Rick Baartman's theory.

3. The computation of net steering voltage, obtained by subtracting common plate voltage from the steerer in question.

All quadrupole setpoints are compared to theory, and presented as a percent offset. All steering voltages are presented as a net steering voltage gradient.

Display

Quadrupoles theory offsets are displayed as vertical histogram bars on the left hand side of the display, while voltages are shown as horizontal histogram bars on the right hand side.

There is no need to refresh TuneDisplay – once histograms are displayed, they will automatically refresh every 60 seconds.

Hovering the mouse pointer over any histogram will display a tooltip, which shows additional information. For quadrupoles, this includes the theory value, actual setpoint and percent difference. Only net voltages are shown for steerers.

Histograms may be zoomed-in on by clicking and dragging the mouse over the histogram area. A 'reset zoom' button will appear in the top right hand side of the plot, to reset the view.

Operation

To access the setup menu, hover the mouse over the top grey area. This will reveal the settings menu. Beam properties must be entered manually. Hitting either enter, or clicking 'Submit' will refresh the histograms to the desired selection.