

Elettra Sincrotrone Trieste

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Summary:

 Matching aims to find transverse optics settings that bring the





measured beam parameters close to the design values.

- A new control room tool has been made for beam matching in the FERMI FEL.
- This combines the functionality of pre-existing tools and adds some new features.









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 Given some initial Twiss parameters, we can compare the current beam transport (top) with a matched solution (middle) and the design optics (bottom).





• Errors in Twiss parameters or quadrupole strengths can also be visualised.

• The plot above shows the possible range of β functions due to an error in the initial Twiss measurement.

• This can help to understand possible issues with beam transport through the FEL.