

Transverse control and optimization for plasma wakefield acceleration

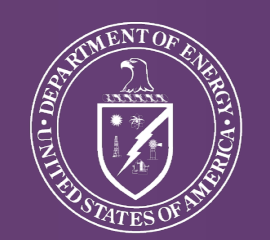
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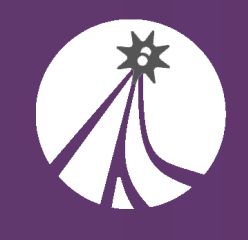


NATIONAL
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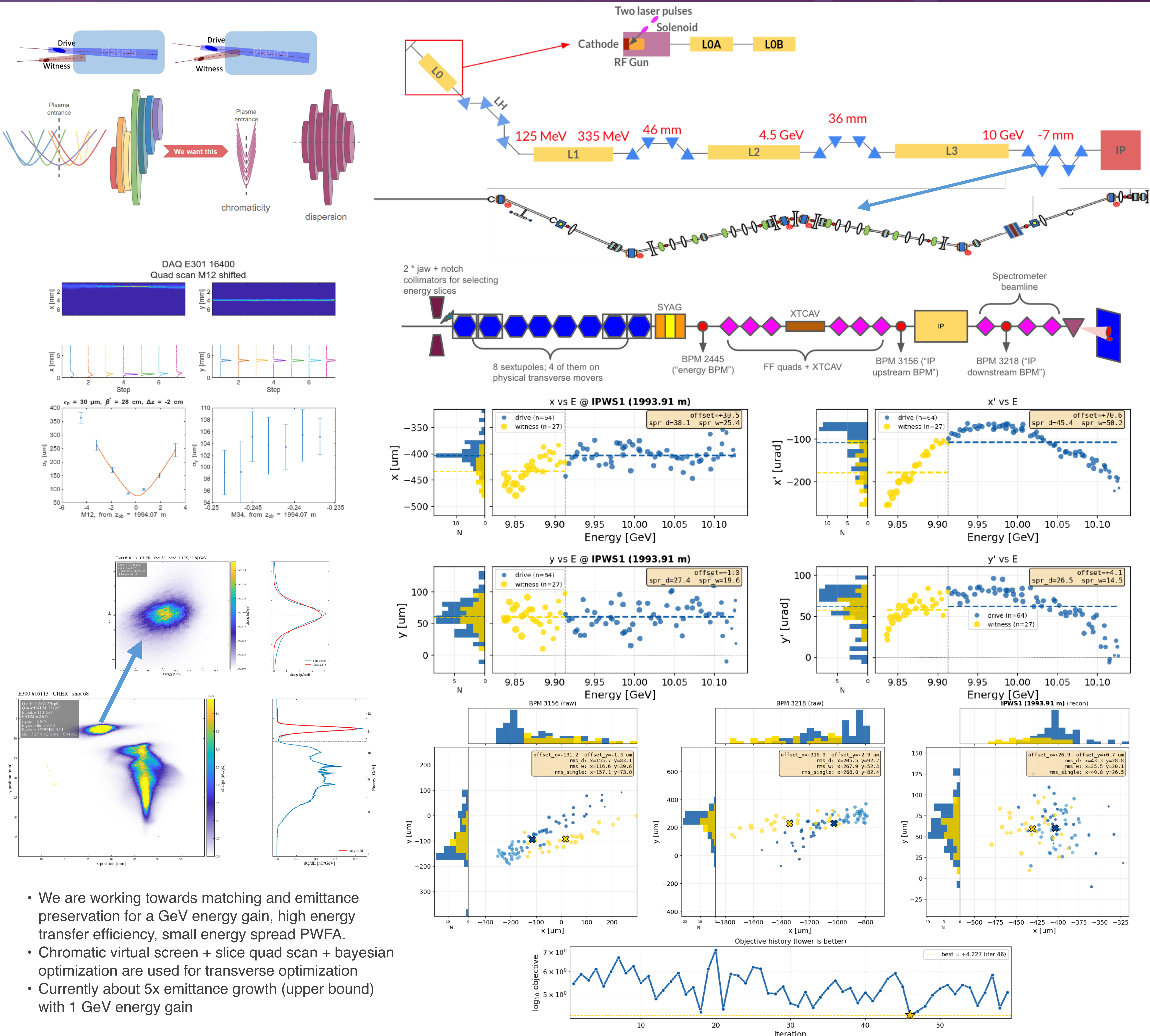
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of ENERGY



FACET-II



- We are working towards matching and emittance preservation for a GeV energy gain, high energy transfer efficiency, small energy spread PWFA.
- Chromatic virtual screen + slice quad scan + bayesian optimization are used for transverse optimization
- Currently about 5x emittance growth (upper bound) with 1 GeV energy gain

ACKNOWLEDGEMENTS

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REFERENCES

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- [2] V. Yakimenko et al., "FACET-II facility for advanced accelerator experimental tests," Phys. Rev. Accel. Beams 22, 101301 (2019).