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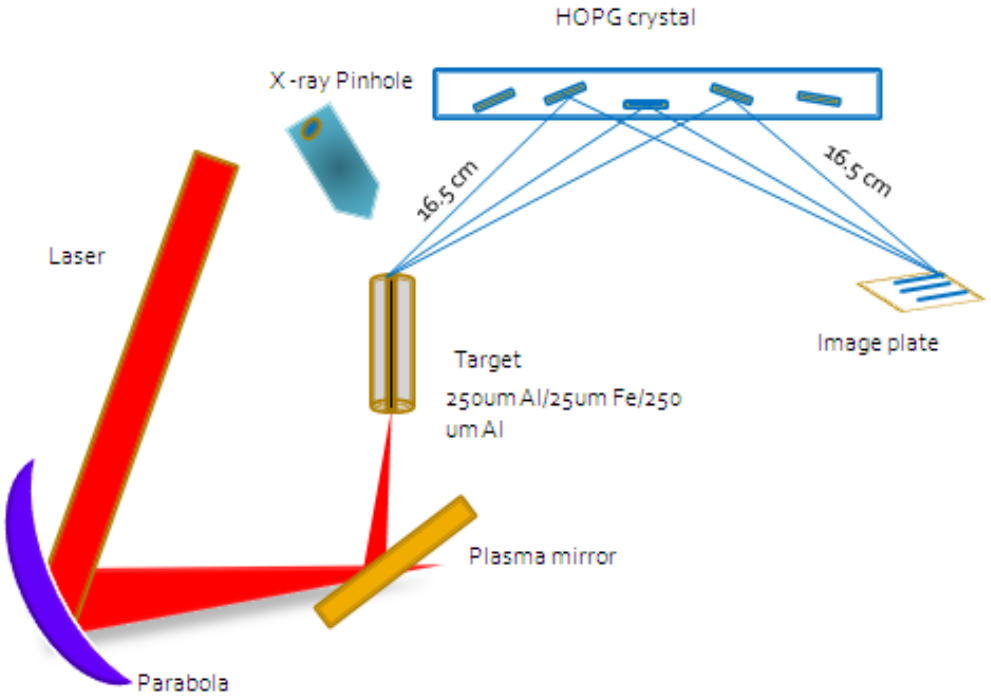
Experimental set up and theory



$$\frac{\partial B}{\partial t} = \eta \nabla \times j + (\nabla \eta) \times j.$$

I. First term - B acts to push the fast electrons towards regions of higher fast electron density

II. Second term- pushes fast electrons towards higher resistivity

Vulcan TAP LASER I ~ 10^{20}W/cm^2
Pulse duration ~ 500 fs

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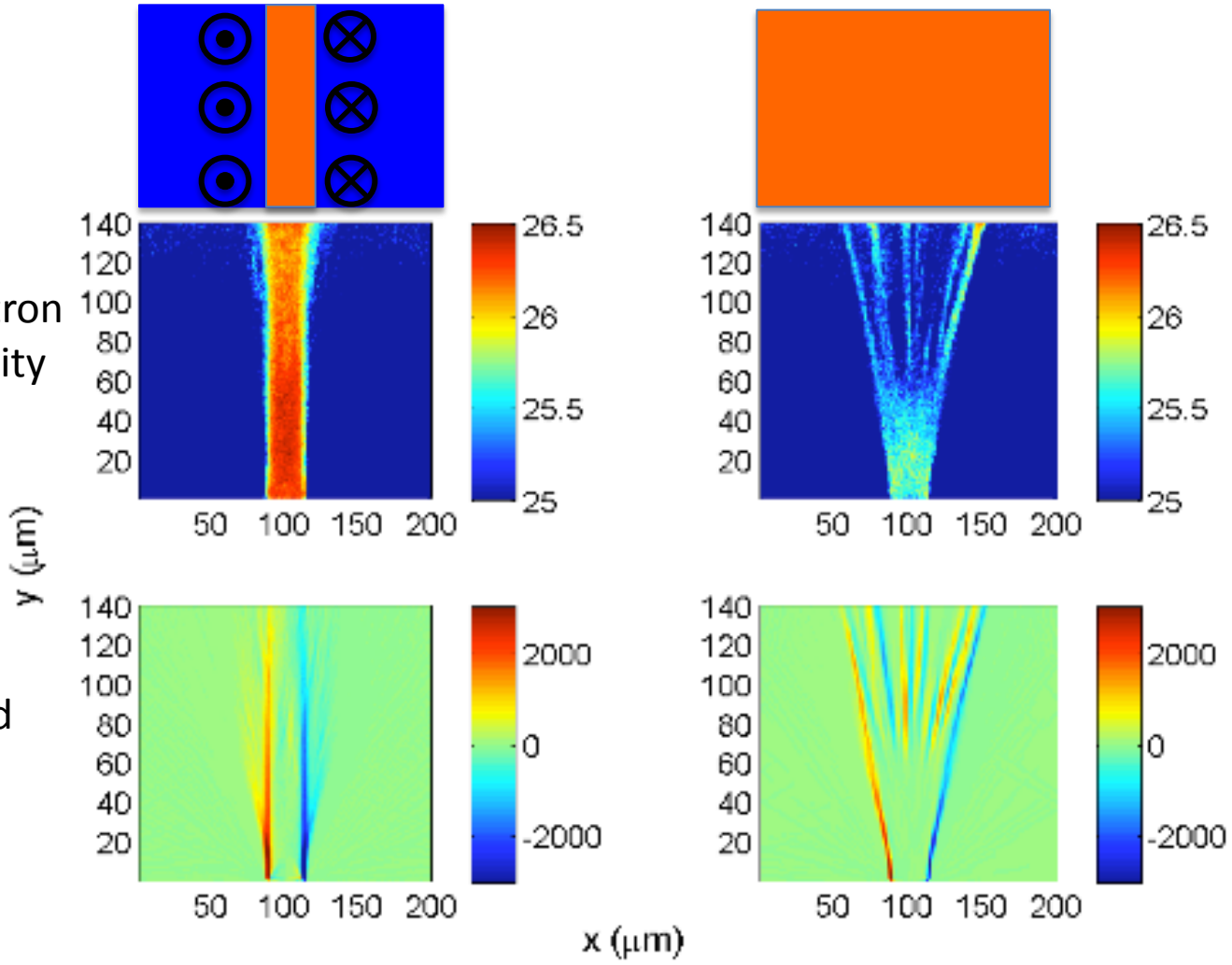
Simulations

GUIDED Fe wire in Al

UNGUIDED – uniform Fe foil



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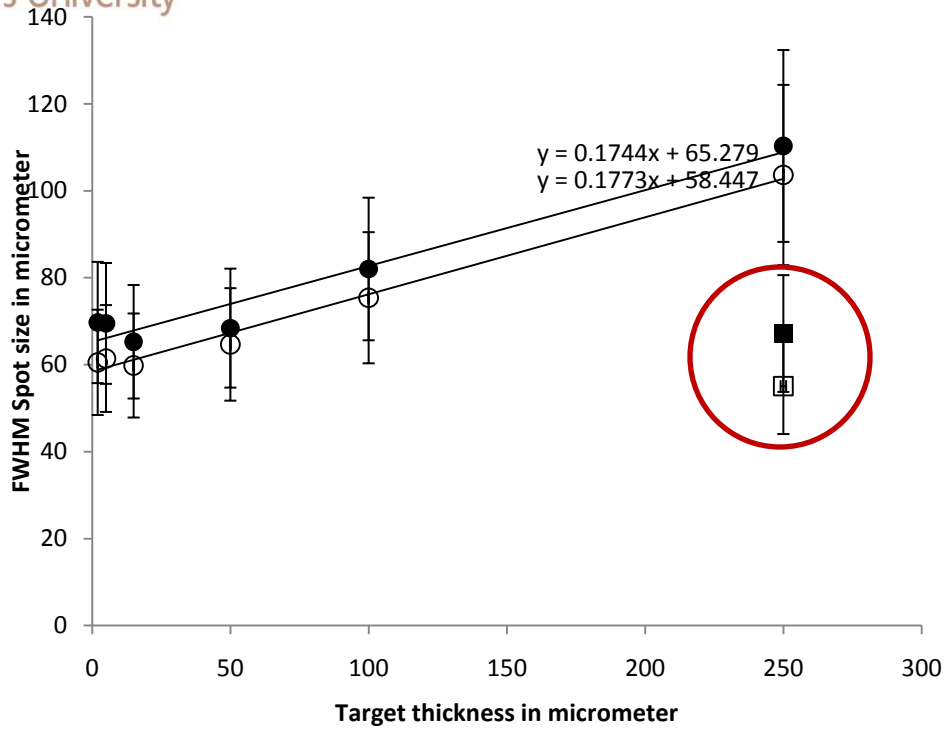

Spot sizes measured from Cu-K α Pinhole and HOPG data

B Ramakrishna et al., (PRL submitted)