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## High energy electron shadowgraphy diagnosing magnetic field

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The strong penetrating ability of relativistic electron beam with energy as high as several tens of MeV prohibits the possibility forming an image based on absorption by material. However, we demonstrate that it can make a shadowgraphy based on scattering. The demand for electron beam is analyzed and simulations are conducted, experiments carried out at the 120 MeV linear accelerator proves the feasibility, and preliminary diagnosing magnetic field of a customized dipole shows this method has great reliability.

### Funding Agency

### Footnotes

### I have read and accept the Privacy Policy Statement

Yes

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