

Diagnostics for fusion research

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The lecturers will present the general context of diagnostics for laser-produced plasmas and for inertial confinement fusion.

After the introduction I will describe in more details some specific diagnostics as examples of possible investigation tools of the different regions of laser-produced plasmas, in particular:

1) Interferometry

Measurement of plasma density in the undercritical region

2) VISAR

Measurements of parameters related to laser-generated shocks

3) X-ray imaging systems

Diagnostics of hot electrons and plasma size and uniformity

4) X-ray spectroscopy

Measurement of plasma temperature

5) Proton Radiography

Measurement of electric and magnetic fields and of density of plasmas