

Equilibrium charge state distribution measurement in warm dense matter

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Equilibrium charge state distribution of ions after passing through cold solid target has been measured for many years [1]. Nevertheless, far less is known in the warm dense regime where the ionization of matter is affected by heating it by external means. The difficulty of creating well-characterized, uniform warm plasmas has made such detailed measurements problematic up to now.

We present a recent experiment realised on 100TW ELFIE (LULI, Ecole Polytechnique) laser system. We measured, at several projectile energies, the charge-state distribution and equilibrium length of light and heavy ion beams after passing through either cold or isochorically-heated warm dense matter. The experimental details and first results from the campaign will be described.

References

- [1] K. Shima et al., *Phys. Rev. A* **40**, 3557 (1989)

Je souhaite concourir au prix «affiche» et je déclare être un chercheur non-permanent n'ayant pas encore soutenu la thèse.