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Influence of target curvature on ion acceleration from thin foils by circularly polarized laser pulse DEEPAK DAHIYA, ASHOK SHARMA, Center for Energy Studies, Indian Institute of Technology Delhi, New Delhi, India — Ion acceleration from foil target irradiated by a circularly polarized laser is studied using multidimensional particle-in-cell simulations. Convex, Flat and concave target shapes are considered. Radius of curvature of curved target is of the order of laser width in transverse direction. Accelerated ion beam of highest peak energy and least energy spread is obtained from concave target, whereas total accelerated charge is highest in convex target. The result can be attributed to change in growth of transverse instabilities and geometrical effects due to target curvature in initial stages of acceleration process.

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