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# Accelerators for studies of Warm Dense Matter*

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We determine requirements on ion beam accelerators needed for the study of warm dense matter physics using ion beams to isochorically heat matter to temperatures of order 1 to 10 eV and at 1% to 100% solid density. We estimate the temperature uniformity of the heated foil, and explore the effects of ion beam velocity spread on the foil temperature uniformity. We describe several accelerator configurations using low to medium mass ions that would lead to the required beam intensity. We show how the technique of neutralized drift compression, combined with final focus optics that are tolerant of large velocity spread can lead to foil temperatures appropriate for the study of warm dense matter physics.

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