ANALYTICAL AND NUMERICAL DESIGN of THREE-STAGE CYLINDRICAL TARGETS

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At numerical designing microtargets heavy ion fusion for fusion author is based on the concept of shock-free compression. The basis of such targets may be cylindrical, layered system.

Previously considered single-stage [1] and the two-stage stratified [2] system. Benefits were shown in front of single-stage two-stage targets on the largest input energy and thermonuclear amplification factor. This work discusses three cascaded layered system. Analytically, there are laws of energy input to each of the stages for the implementation of shock-free compression of the working area and more DT selection energy of this area. Analytical calculations are confirmed by numerical calculations.

References

1. Dolgoleva G.V., Zabrodin A.V. "Accumulation of energy in layered systems and realization of shockless compression" M FIZMATLIT 2004.
2. Dolgoleva G.V. Journal of Russian Laser Research, 2013, 34(3), 230.