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Fast Ignition Thermonuclear Fusion: Enhancement of the Pellet Gain by the Colossal-Magnetic-Field Shells[1] V. ALEXANDER STEFAN, Institute for Advanced Physics Studies, Stefan University, La Jolla, CA 92038-1007 — The fast ignition fusion[2] pellet gain[3] can be enhanced by a laser generated B-field shell. The B-field shell, (similar to Earth's B-field, but with the alternating B-poles), follows the pellet compression in a frozen-in B-field regime. A properly designed laser-pellet coupling [4] can lead to the generation of a B-field shell, (up to 100 MG), which inhibits electron thermal transport and confines the alpha-particles. In principle, a pellet gain of few-100s can be achieved in this manner.

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[2]M. Tabak, D. Clark, R. P. J. Town et. all, *Features of a Point Design for Fast Ignition*, Keynote Talk, Conf. on Res. Trends in Laser Matter Interaction, (Bulletin of the Stefan University, Series B, Stefan Frontier Conferences, Vol. 22, May 2010; ISSN:1938-3967).

[3]S. A. Slutz**,** M. C. Herrmann, R. A. Vesey, et. all., Phys. Plasmas, 1**7**, 056303 (2010)]

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V. Alexander Stefan
Institute for Advanced Physics Studies,
Stefan University, La Jolla, CA 92038-1007

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