

Abstract Submitted  
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**Natural Divertor Spherical Tokamak Plasmas with bean shape and ergodic limiter**<sup>1</sup> CELSO RIBEIRO, Escuela de Ingenieria Electronica del Instituto Tecnologico de Costa Rica, Cartago, Costa Rica, JULIO HERRERA, Instituto Nacional de Ciencias Nucleares, UNAM, Mexico City, Mexico, ESTEBAN CHAVEZ, Instituto Nacional de Investigaciones Nucleares, Salazar, Mexico, KEVIN TRITZ, Johns Hopkins University, Baltimore, Maryland, US — The former spherical tokamak (ST) MEDUSA (Madison EDUcation Small Aspect.ratio tokamak,  $R < 0.14\text{m}$ ,  $a < 0.10\text{m}$ ,  $B_T < 0.5\text{T}$ ,  $I_p < 40\text{kA}$ , 3ms pulse) [1] is being recommissioned in Costa Rica Institute of Technology. The main objectives of the MEDUSA-CR project are training and to clarify several issues in relevant physics for conventional and mainly STs, including beta studies in bean-shaped ST plasmas [2], transport, heating and current drive via Alfvén wave, and natural divertor STs with ergodic magnetic limiter [2,3]. We report here improvements in the self-consistency of these equilibrium comparisons and a preliminary study of their MHD stability beta limits.

[1] G. D. Garstka, PhD thesis, University of Wisconsin at Madison, September 1997

[2] C. Ribeiro et al., Proc. 25<sup>th</sup> Symposium on Fusion Engineering, San Francisco, US, June 2013

[3] C. Ribeiro et al., Proc. 39<sup>th</sup> EPS Conf. Contr. Fusion and Plasma Phys., vol. 36F, P1.091, Stockholm, Sweden, July 2012

[4] J. J. E. Herrera-Velazquez, E. C. Alarcon, and C. Ribeiro, 24<sup>th</sup> IAEA Fusion Energy Conference, TH-p2-28, San Diego, US, 8-12 October 2012

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