

Abstract Submitted
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Control and Data Acquisition for the Spherical Tokamak MEDUSA-CR¹ CHRISTIAN SOTO, JEFERSON GONZALEZ, JOHAN CARVAJAL, CELSO RIBEIRO, Escuela de Ingenieria Electronica del Instituto Tecnologico de Costa Rica — 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 present here the control and data acquisition systems for MEDUSA-CR device which are based on National Instruments (NI) software (LabView) and hardware on loan to our laboratory via NI-Costa Rica. The interface with the energy, gas fueling, and security systems are also presented.

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

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

[3] C. Ribeiro et al., Proc. 39th EPS Conf. Contr. Fusion and Plasma Phys., Sweden, 2012

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Christian Soto
Escuela de Ingenieria Electronica del Instituto Tecnologico de Costa Rica

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