

Abstract Submitted  
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**Z-pinch research at the Chilean Nuclear Energy Commission: from basic research to portable devices for field applications**<sup>1</sup> GONZALO AVARIA, JOSE MORENO, CRISTIAN PAVEZ, ARIEL TARIFENO-SALDIVIA, MARCELO ZAMBRA, LEOPOLDO SOTO, Comision Chilena de Energia Nuclear — Research in pinch discharges at the Chilean Nuclear Energy Commission includes: a) experimental studies in plasma dynamics, stability, X-ray and particles radiation, fusion mechanisms using gas embedded z-pinch, wire arrays and plasma foci; b) development of transportable and portable non radioactive sources based upon plasma focus devices for field applications; c) development and improvements of diagnostics suitable for the extreme conditions of this research. This work will present an overview of recent results in coupling studies of SPEED 2 generator (2.4MA achieved in 450ns) working in cylindrical wire array configuration, as well as the main conclusions from the scalability work in plasma focus devices from MJ to less than 1J. Ultimate results in a 2J portable PF device as non radioactive neutron source for field applications are presented.

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