

Comment on “Experimental evidence of thermonuclear neutrons in a modified plasma focus” [Appl. Phys. Lett. 98, 071501 (2011)]

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Comment on “Experimental evidence of thermonuclear neutrons in a modified plasma focus” [Appl. Phys. Lett. 98, 071501 (2011)]

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On page 3 of Ref. 1, the authors claim: “It is for the first time when the ion temperature of thermonuclear Z-pinch plasmas is calculated from the width of neutron energy spectrum.” They are probably unaware of Ref. 2, in which one of the main results we reported were neutron spectra measurements made in the 1 MJ plasma focus at Frascati. These spectra were obtained by the time-of-flight method, with a time-resolved detector placed at a distance of 140 m from the neutron source, therefore giving a very accurate

spectral resolution. On page 535 of Ref. 2, several spectra are shown, where the width is signalised. From the results from many spectra, a temperature of deuterons was calculated from the formula $\Delta E = 82.5 [kT]^{1/2}$ as derived by Lehner and Pohl.³ In other words, back in the 1970s, the width of the neutron spectra was used, and the deuteron temperature at the Frascati’s 1 MJ device was estimated.

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¹D. Klir, P. Kubes, M. Paduch, T. Pisarczyk, T. Chodukowski, M. Scholz, Z. Kalinowska, E. Zielinska, B. Bienkowska, J. Hitschfel *et al.*, *Appl. Phys. Lett.* **98**, 071501 (2011).

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