

PRELIMINARY FUSION STUDIES WITH ODAK-3K PLASMA FOCUS DEVICE

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In this study, some results of first fusion researches realized in a small scale plasma focus device, namely ODAK-3K are reported. This device has a maximal energy input of 3 kJ and is used for both plasma and D-D reaction explorations. Experiments have shown that peak current of $I_{\text{peak}}=39$ kA flows between the electrodes at 11.5 mbar. Average total neutron yield is measured around 3.3×10^5 neutrons per shot using CR-39 plastic detectors located in different places inside the vacuum chamber.

Keywords: Plasma focus, neutron, D-D reaction, fusion, CR-39 detector