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Processing of the HXR and neutron signals registered with the time resolved scintillation detectors[1] EKATERINA LITSEVA, PAVEL KUBES, KAREL REZAC, FEE CTU in Prague — The DD fusion reaction was studied experimentally on the PF-1000 plasma focus (IPPLM, Warsaw, 1-2 MA current and 1011 neutrons per shot). The neutron measurements were carried out with the set of detectors in the downstream, upstream and radial directions, which make possible to estimate the time dependence of neutron energy distribution. The signals from the detectors consist of a few of the hard X-ray and neutron pulses. The signals are distorted by the dimensions and characteristics of the detectors and photomultipliers. Hard X-rays are influenced by the transit time of the electrons before collisions with the walls of the chamber. Neutron signals are influenced by the moderated and scattered neutrons. In order to remove these distortions from the signals, the supposition of the linear dependence of delayed particles on the time and intensity is used. The processing includes the filtration of the signals and further the adjustment of the neutron signals with the supposition of the 10%, 30% and 50% delayed particles.

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