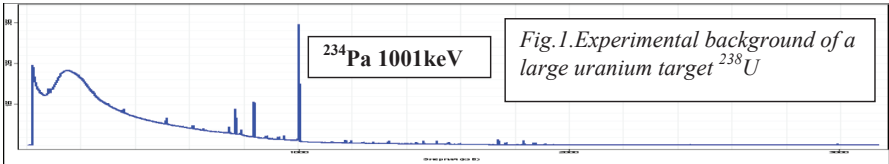


## EXPERIMENTAL BACKGROUND OF A LARGE URANIUM TARGET (A QUASIINFINITE TARGET $^{238}\text{U}$ ) ON PROTON BEAM

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The problem of efficient utilization of the worked-off nuclear fuel (WNF) has become a basic topic in the discussion of future global energetic last years. Developed countries start to discuss seriously the utilization of electro-nuclear systems (in international terminology- Accelerator Driven Systems-ADS) as an alternative and perspective method of resolution of this problem. A quite energy stiffness of the neutron spectra in the comparison with the dividable one, that would permit instead of the traditional for the nuclear reactors reactions ( $n, f$ ), and ( $n, \gamma$ ) to use efficiently a complex of multistep cascade reactions, a high energetic proton, meson and neutron division, and also a threshold reactions of the type ( $n, xn$ )-associated with the producing of neutrons has been supposed in the project. A neutron spectrum of this type would permit “to burn” efficiently threshold minors of Actinides and transmute the long-living pieces of nuclear division into the WNF downloading in the active zone (AZ) (Figs. 1, 2).



Basic scientific and methodologic results of the project are discussed in the report.

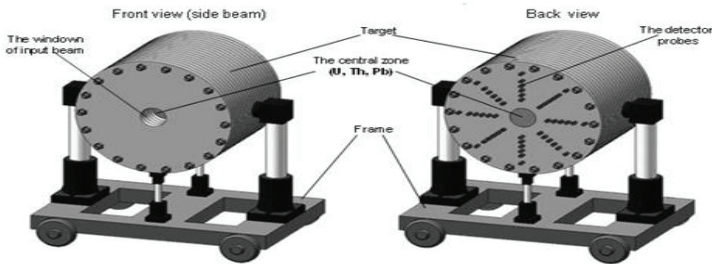


Fig. 2. A common view of the target set up of  $^{238}\text{U}$ , established on the transport and adjusted platform in the centre of the proton beam 660meV, in the Phasotron LNP, JINR.

1. R.G.Vasilkov et al. // At Energy 1978. V.44. P.4 (In Russian).