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A re-examination of the non-equilibrium emission in (p,n) reactions NIKOLAY KORNILOV, STEVEN GRIMES, ALEXANDER VOINOV, Ohio University — Re-analysis of old experimental neutron spectra from (p,n) reactions allows us to reveal very interesting peculiarities which never were discussed before. The neutron spectrum due to the direct mechanism in particular its high energetic part changes very much from one isotope to other. We describe this difference with incorporation of two components which provide the “broad bump,” or “step like” shape of neutron spectra at high energy. The properties of these components are: different shape, energy shift between them, and very strong fluctuation between different isotopes for ratio of cross sections connected with partial contribution. In this report we discuss the method applied for data analysis, final results and conclusions. We demonstrated also possible influence and importance of this result for practical application – nuclear data calculation.

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