

THE FUSION BY DIFFUSION MODEL REVISITED

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The Fusion by Diffusion (FBD) model was invented by Władek Świątecki in 2003 and since then it was used to predict cross sections and optimum bombarding energies in reactions leading to the synthesis of super-heavy nuclei. The present work includes several modifications introduced to this model during recent years. Most importantly, the angular momentum was included into the description of the potential energy surface that may significantly modify the results concerning the fusion hindrance factor. Moreover, an individual treatment of the geometry of the rapid growth of the neck between the target and projectile was introduced. In this article an up-to-date set of $1n$ evaporation-residue excitation functions, including new Berkeley data, was reanalyzed by using the modified version of the FBD model.

This work is dedicated to the memory of Władek Świątecki, our mentor and friend.