**A solutions of the Fokker-Planck equation for a Schrödinger potential with mixed eigenvalue spectrum**

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An analogy of the Fokker-Planck equation (FPE) with the Schrödinger equation allows to use quantum mechanics technique to find the solution of the FPE in a number of cases. However, as already mentioned in recent paper by M.T. Araujo and A. Drio. Filho [1], previous studies have been limited to the study for a Schrödinger potential with discrete eigenvalue spectrum. Here we will show, how this approach can be applied also for Schrödinger potential with continuous and mixed eigenvalue spectrum (partly discrete eigenvalue spectrum and partly continuous eigenvalue spectrum). To overcome this problem we follow the idea proposed in [1]: solve the FPE with some boundaries located at $x = \pm L/2$ and taking the limit $L \to \infty$. We show this procedure for two examples: for zero Schrödinger potential and Pöschl-Teller potential. If we compare our results with results in [1] we see clear differences. These differences appears due to oversimplified approach for calculation of unbounded states used in [1]. It can be shown that they actually replace any arbitrary Schrödinger potential with zero potential in process of calculation of unbounded states. This of course leads to different results, and this approximation can not be used. Therefor also in [1] called "a general solution of the FPE" is wrong and only in the stationary limit $t \to \infty$ matches with real solution. Here we will not discuss other numerous mathematical mistakes in [1].

## References

[1] M.T. Araujo, E. Drigo Filho: A General Solution of the Fokker-Planck Equation, *Journal of Statistical Physics* **146**, 610–619 (2010)