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The hybrid Gompertz distribution – derivation, characterization and estimation (a reaction network treatment)

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Using the tools of reaction network theory, we show how the well-known Gompertz probability distribution can be generalized to a new distribution – the hybrid Gompertz distribution. We characterize the hybrid Gompertz distribution using a combination of analytical and numerical methods, and compare it graphically to the standard Gompertz distribution. Selected probabilistic properties of the hybrid Gompertz distribution are presented and possible approaches to its estimation are investigated.

Keywords: reaction networks, Gompertz distribution, hybrid Gompertz distribution

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