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Analysis of dimer dynamics with an enhanced bond-fluctuation model[1] FRANK BENTREM, Department of Chemistry and Physics, Northwestern College, Orange City, Iowa 51041 — A recently introduced enhancement to the bond-fluctuation model has been shown to both increase efficiency and extend the applicability of the bond-fluctuation model for polymer simulations. In order to better understand the increase in performance, a theoretical analysis of the dynamics for the simplest case–an isolated dimer–is presented along with a comparison between the original and enhanced bond-fluctuation models. In particular, we find the equilibrium bond-length probability distribution for the dimer using each of the models.

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