

**Random forces, energy dissipation and soliton dynamics within the Pariser-Parr-Pople model of alternating trans-polyacetylene.** Orendi, H.; Foerner, W.; Ladik, J

**Abstract**

The influence of the environment on soliton dynamics in alternating trans-polyacetylene is simulated by randomly fluctuating forces and a friction term in the PPP approxn. The perturbing terms can be varied independently. Random forces are able to stop a moving soliton if their strength is at least comparable to the internal lattice forces. On the other hand they are able to accelerate a kink in the middle of a chain and produce a random walk.