

**Soliton dynamics in alternating trans-polyacetylene and in stacked systems.** Foerner, W.; Ladik, J.; Hofmann, D.; Seel, M.; Godzik, A.; Martino, F

### **Abstract**

The influence of substitutional disorder, random forces, and energy dissipation on solitons in alternating trans-polyacetylene (I) using the Su-Schrieffer-Heeger Hamiltonian is discussed. Double ionization in polyene chains was also investigated. Further soliton dynamics within a full PPP Hamiltonian for I are presented. The presence of conformational solitons in stacked systems is shown numerically in a polyformamide model system. Possible relations to DNA and carcinogenesis are briefly reviewed.