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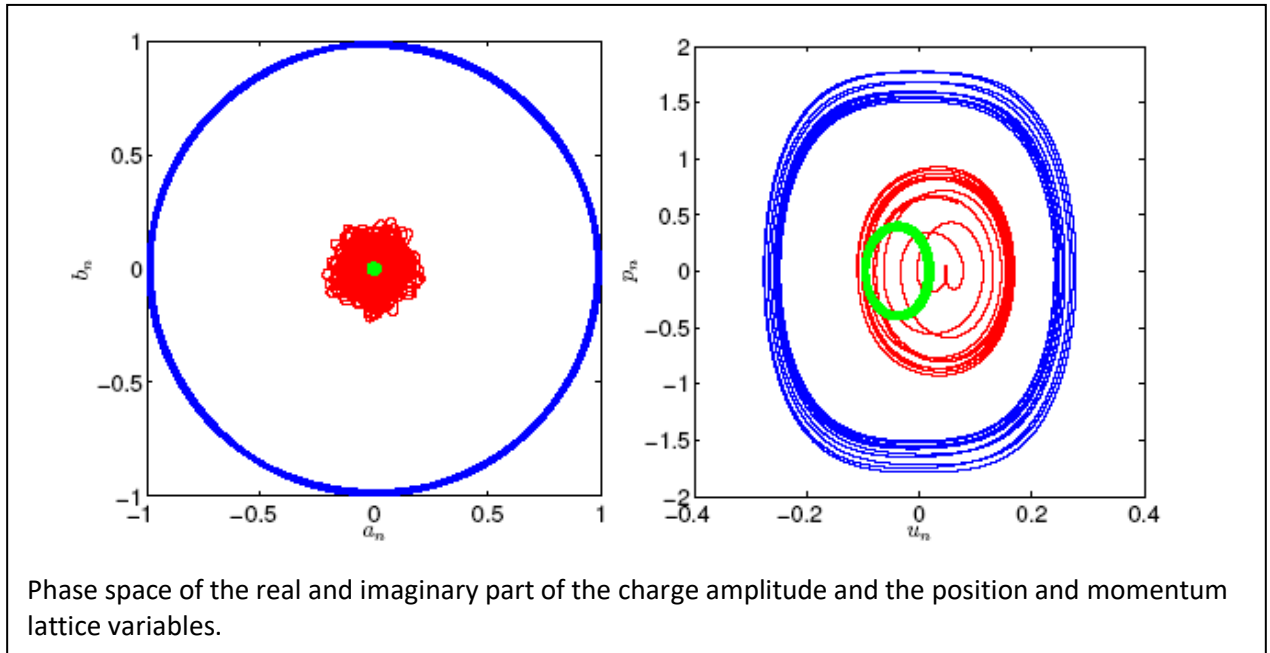
Nonlinear excitations in a silicate chain. Experiments and theory.

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We present some experiments in silicates that show the existence of nonlinear excitations that transport energy and can transport electric charge without the presence of an electric field. The energy of the nonlinear excitations is provided by the impact of alpha particles. We present different models for which it is possible to obtain long-living nonlinear excitations without and with transport of charge. We also present the calculations of the physical parameters, for which we have obtained stationary chaotic breathers coupled with the charge whereas traveling excitations are under current research.



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