

Special PHYSICAL MATHEMATICS SEMINAR

QUASIPARTICLES IN THERMALIZED FPU CHAINS: RENORMALIZED WAVES AND BREATHERS

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ABSTRACT:

The characterization of the thermalized FPU chain as a system of statistically "free" waves is presented. It is shown that, regardless of the strength of nonlinearity, the waves become renormalized and possess a renormalized dispersion relation, which is wave-number independent. This renormalization effect is explained via a meanfield argument. Finally, the existence of spatially highly localized discrete breathers is demonstrated numerically in the thermalized beta-FPU chain.

THURSDAY, FEBRUARY 15, 2007
2:00 PM
Building 4, Room 370

*Reception at 3:00 PM in Building 2, Room 349
(Applied Math Common Room)*

