

Abstract Submitted  
for the DPP05 Meeting of  
The American Physical Society

**Modeling coherence decay in broad band triplet interaction** FELIPE RIZZATO, RENATO PAKTER, MARCOS FRICHEMBRUDER, Instituto de Física, UFRGS, Brasil — In the present analysis we study the transition from coherent to incoherent dynamics in a nonlinear triplet of broad band combs of waves. We first reduce the original set of equations into a set where all submodes within a comb interact democratically with all submodes in the remaining combs. We then develop a spectral formalism that in a self-contained way enables: (i) to determine the point of the transition; (ii) to obtain a convenient set of low dimensional equations modeling the full dynamics.

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Date submitted: 27 Apr 2005

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