Session KD - Waves I.
ORAL session, Tuesday morning, November 26
Sapphire, Wyndham Anatole Hotel

[KD.007] The evolution of periodic waves of the coupled NLS equations

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Systems of coupled nonlinear Schrodinger equations (CNLS) arise in the studies of interactions of surface and internal waves. The Hopscotch method is applied to solve CNLS numerically. The algorithm is basically a finite difference method but with a special procedure in marching forward in time. The goal is to study the effects of an initial phase difference on the evolution of periodic plane waves. The outcome will depend on the precise nature of the cubic nonlinearity, and may involve a Fermi-Pasta-Ulam recurrence, a bound state of oscillation, or a rather chaotic state of evolution. (Supported by the Research Grants Council (HK))

Part K of program listing