Non-Stationary Model for Limited Fetch Ocean Wind Waves Growth

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We study the problem of wind ocean waves excitation in presence of the shore. The wind blowing orthogonally off the shore (along the so-called fetch) excites surface waves. This behavior is described by Hasselmann (kinetic) equation for wave action, supplied by wind input and wave breaking dissipation terms. The waves amplitudes distribution, averaged over time, finally reaches stationary state. We show that the major mechanism, responsible for stationary distribution formation is 4-wave nonlinear interaction term.

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