

Nonlinear generation of surface waves against the wind in the limited fetch growth model

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We consider Cauchy problem for ocean waves excitation by homogeneous wind, blowing off the shore in the frame of Hasselmann equation, supplied with the wind input term and damping term due to wave breaking. The process of waves growth consists of three phases – exponential growth, then quasi-stationary phase, corresponding to the waves running off the shore, and finally the phase of relatively slow growth, characterizing by appearance of wind waves, running against the wind. Direction of the waves running against the wind is the slow function of the distance from the shore.