

## WAVE MOTION OF THE SURFACE OF INVISCID FLUID UNDER THE ACTION OF GRAVITY

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### S u m m a r y

This review is devoted to analyzing the wave motion of the fluid surface under the action of gravity in the framework of the canonical model of hydrodynamics, where the fluid is assumed to be inviscid and incompressible and its motion to be planar and potential (irrotational). The subject of investigation is two-dimensional periodic waves of steady shape that propagate in a preferential direction. A typical example of such waves are the sea and ocean waves of meter length or longer, when the effects due to surface tension are not dominating. The main focus is put on the properties of nonlinear waves known as the Stokes waves: their waveform, velocity, amplitude, energy. Some questions related to wave instabilities and breaking are considered as well.