Kelvin waves under an ice cover

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Kelvin and Poincaré waves in ice-covered water are analyzed in the linearized theory. The problem is examined without making a long-wave approximation. The sea water is considered homogeneous and inviscid. The ice is taken as of uniform thickness, with constant values of Young's modulus, Poisson's ratio, density and compressive stress in the ice. We present explicit solutions for Kelvin and Poincaré waves under an ice cover and the dispersion equations.