

Effect of Surface Wave Propagation in a Four-layered Oceanic Crust Model

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A b s t r a c t

Dispersion of Rayleigh type surface wave propagation has been discussed in four-layered oceanic crust. It includes a sandy layer over a crystalline elastic half-space and over it there are two more layers—on the top inhomogeneous liquid layer and under it a liquid-saturated porous layer. Frequency equation is obtained in the form of determinant. The effects of the width of different layers as well as the inhomogeneity of liquid layer, sandiness of sandy layer on surface waves are depicted and shown graphically by considering all possible case of the particular model. Some special cases have been deduced, few special cases give the dispersion equation of Scholte wave and Stoneley wave, some of which have already been discussed elsewhere.

Key words: inhomogeneity, surface wave, oceanic crust, sandiness parameter, crystalline media.

Full text is available at
<https://link.springer.com/article/10.1007/s11600-017-0091-0>