SURFACE WAVE ATTENUATION ALONG SEVERAL PATHS IN THE PACIFIC OCEAN

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Fundamental mode Rayleigh and Love waves generated by several earthquakes situated along great circles between pairs of seismograph stations on Pacific Islands, have been analyzed to obtain the anelastic attenuation coefficients, γ, and specific quality factors, Q , in the older part of the Pacific Ocean in the range of 18-110 sec. for Rayleigh waves and 20-110 sec. for Love waves.

Attenuation coefficients, γ, and specific quality factors, Q, have been obtained by using the " Two Station Method ".

Attenuation coefficients, γ, are compared with those obtained by Mitchell et al.(1976) which might be considered average values for the entire Pacific Ocean, and Correig (1977) which correspond to the younger regions of the Pacific Ocean (Eastern region). The values obtained in this study are somewhat lower than those of Mitchell et al.(1976) and substantially lower than those of Correig (1977).

The results obtained in this study in comparison with the above mentioned ones suggest

that there is a correlation between attenuation coefficients γ (or specific quality factors Q) with the age of the lithosphere.

The attenuation coefficients appear to decrease (or Q factors increase) with increasing age of the lithosphere.

The multiple-filter technique, used in the analysis of the observed amplitudes, also yields Rayleigh and Love wave group velocities.