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Estimation on source time function

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In this study, the site effect of frequency function of the Taiwan area will be invested. The recorded response function of a single earthquake will be calculated by Complex Demodulation. The path effect of each event-station pair will be estimated by using the forward method with a 3-D attenuation structure. After removing the path effect, the source frequency function of each single event will be obtained by averaging the whole station gotten. Using this source frequency function to calculate the path effect of the all stations, the theoretic received frequency function can be obtained. The difference between this theoretic function and the recorded function is the site effect function of the single station. The characteristics of the site effect in Taiwan area will be analyzed. The path effect will be recalculated and the site effect of each station will be removed to get the new source time function by using the technique of cross-correlation to get their cross-correlation function. From the variation of the cross-correlation the total duration function of the rupture of each earthquake will be obtained.

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