Structure-inversion strategy for ACROSS data : A trial theory on mode approach

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   A trial theory of mode approach is presented in order to utilize the characteristic properties of ACROSS data of elastic and electromagnetic waves for analyzing the underground structures. Specifying a finite space as an isolated dynamic system by introducing an appropriate boundary condition, we made an analysis of the forced oscillation modes and derived a successive method of structural inversion from the nearer field and smaller wave number components. Numerical examples of solving forwards and inverse problems are presented for simple 1D structural analysis to show the logistics and feasibility in more complicated cases.