

# Reconsideration of the Theory on the Dynamical Effect of the Fluid Core Resonance on the Solid Earth Tide

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Effect of non-rigidity of the solid Earth exerted on the Earth's tide and rotation is of great importance for understanding dynamical behavior of the core and mantle. The influence of the fluid core on the solid tide is predictable based on Sasao et al.'s theory (Sasao et al., 1980, hereinafter referred to as the SOS theory). However, some contents in the relevant paper of SOS at the current moment possibly involve a few potential difficulties if any other researchers understand the theory and apply it more widely, especially in calculating the Love numbers to express the tidal deformation. The first point concerns boundary conditions of the radial functions (hereafter the  $y$  functions). The second point concerns definitions of the  $y$  functions. The third point concerns the preconditions of the calculation. Any of the above-mentioned points of view (especially the first point) would be important. Therefore, the present study reports that these three points are considered in here.

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