

## Long-period MT responses in media with multiple anisotropic layers

\*Tomohisa Okazaki<sup>1</sup>, Naoto Oshiman<sup>2</sup>, Ryohei Yoshimura<sup>2</sup>

1. Graduate School of Science, Kyoto University, 2. Disaster Prevention Research Institute, Kyoto University

We have formulated an analytical machinery investigating responses in 1D anisotropic media based on the algebraic recursion formula (Pek and Santos, 2002). Expansion of the impedance tensor with respect to frequency facilitates calculation and interpretation of results for long period responses. Applications are made for dimensionality analysis of anisotropic layered media. We analytically confirmed previous results inferred from numerical simulations (Marti et al., 2010), and clarified more detailed dependence on model parameters in a general setting. It is conductance that mainly governs responses in long periods. In addition, the general form of expansion revealed that the real part of the impedance is sensitive to the background isotropic medium; if the basement is conductive, a long period strike estimation strongly deviates from a 2D nature. This may serve as a characteristic of anisotropic stratified structures distinct from 2D isotropic structures.