

Large-scale distribution of the electrical conductivity of the Philippine Sea Plate

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We report an attempt to improve three dimensional distribution models of the electrical conductivity of the Philippine Sea Plate by using large-scale voltage differences observed with four submarine cables and geomagnetic field variations at 11 observatories in the region. We estimated source systems with the principal component analysis and revealed that the source wavelength is much larger than the region ($\gg 3000\text{km}$). The regionally-coherent geomagnetic field variations are spatially interpolated to estimate a correction factor to the MT response under the assumption of a uniform source. Electrical conductivity distributions are evaluated at periods shorter than one day with a three dimensional finite difference code by Mackie (1993).