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Spatial distribution of the mantle conductivity as seen from the 3-D inversion of ground-based C-responses

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We present the results of three-dimensional (3-D) inversion of global ground-based electromagnetic (EM) data. The data consists of C-responses estimated at 133 mid-latitude observatories in the period range between 4 and 100 days. The responses are calculated using fifty years (1957-2007) of hourly mean values of the magnetic field. Special attention is paid to reduce the effects of the auroral source on the calculated C-responses. We invert the responses to construct global 3-D model of electrical conductivity at depths between 410 and 1500 km. The robustness of the 3-D conductivity model with respect to different inverse solver settings (model discretization, starting model, regularization, ocean effect correction, etc.) is discussed.