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Induction signatures at 67P/CG

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The Philae landing on the nucleus of Churiomov-Gerasimenko (67P/CG) opens up the opportunity to derive the electrical properties of the comet nucleus by taking advantage of simultaneous measurements done by Philae on the surface and by Rosetta away from the nucleus. This allows the separation of the induced part of the electromagnetic field, which carries information about the electrical conductivity distribution inside the cometary nucleus. Using the transfer function and the phase difference between the magnetic field at the nucleus surface and the magnetic field measured on orbit, we give a lower bound estimate for the mean electrical conductivity of the Churiumov-Gerasimenko nucleus.