

# On the geometrical sensitivity of the EEG inversion algorithm.

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October 10, 2020

## Abstract

The relative algorithms existing in medical devices for the identification of excitation sources inside the brain using EEG data are based on the assumption that the geometry of the brain-head system is spherical. So, taking EEG measurements from a realistic ellipsoidal model and using these data in a spherical model leads to a structural error. The purpose of the present work is to estimate this geometrical error. The results show that for ellipsoids with small principal eccentricities the errors are not significant. However these errors become bigger as the eccentricities increase and this is a general result that becomes available for any related applications of this inverse problem.

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