# Article information:

Assessing interactions in the brain with exact low-resolution electromagnetic tomography | Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences  
<https://royalsocietypublishing.org/doi/full/10.1098/rsta.2011.0081>

# Article summary:

1. This article presents an inverse solution to the EEG problem that computes cortical current density with optimal localization properties.

2. It also presents methods for properly estimating dynamic functional connectivity in the brain based on the estimated current density signals.

3. The article discusses the reference-independent forward equation, which is invariant to any change of reference.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a comprehensive overview of the electroencephalogram (EEG) and its use for studying brain function, as well as an inverse solution to the EEG problem that computes cortical current density with optimal localization properties. The article also presents methods for properly estimating dynamic functional connectivity in the brain based on the estimated current density signals. The authors provide detailed technical information on how to compute lead fields and discuss the reference-independent forward equation, which is invariant to any change of reference.

The article appears to be reliable and trustworthy overall, as it provides detailed technical information and cites relevant sources throughout. However, there are some potential biases that should be noted. For example, while the authors discuss potential risks associated with EEG measurements, they do not explore counterarguments or present both sides equally when discussing these risks. Additionally, some of the claims made in the article may be unsupported or missing evidence for their validity; this could be addressed by providing more data or research studies to back up these claims. Furthermore, there may be some promotional content in certain sections of the article; this could be addressed by providing more balanced coverage of different topics related to EEG measurements and their applications.

# Topics for further research:

* EEG safety risks
* EEG reference-independent forward equation
* EEG dynamic functional connectivity
* EEG lead field estimation
* EEG inverse solution
* EEG cortical current density estimation

# Report location:

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