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# High-resolution MEG with on-scalp sensors: Benefits, caveats, results and perspectives

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## Résumé

MEG is conventionally recorded with superconducting sensors that are at least 2 cm off the scalp. This unavoidable distance reduces signal amplitude and limits spatial resolution. However, recent advances in magnetic sensing enable malleable arrays of sensors that can be placed right on the scalp, bringing the performance of MEG closer to that of intracranial electric recordings and potentially allowing us to track on-going brain processes with an unprecedented combination of spatial and temporal resolution. In this talk, I will present our simulations and experimental results on applying a small array of on-scalp optically-pumped magnetometers (OPM) to study the working human brain. I will also discuss the challenges in implementing a multichannel OPM array for such studies.

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