

Recording brain activity gets easier with novel device

An improved method for recording brain activity could prove a major asset to neuroscience, according to a Nature paper just out: [Moving magnetoencephalography towards real-world applications with a wearable system](#)

The new device is an improved version of an existing technique, called magnetoencephalography ([MEG](#)). MEG scanners detect magnetic fluctuations caused by the brain's electrical activity. Existing MEG devices, however, are bulky, expensive installations, because they rely on liquid-helium-cooled sensors, called [SQUIDS](#).

The Nature paper introduces a MEG scanner based on sensors called OPMs – [optically pumped magnetometers](#). The key advantage of OPMs over SQUIDS is that they don't need to be supercooled, so there is no need for (expensive) liquid helium.

Eliminating the liquid helium also means that the new MEG scanner is much more portable. It can be worn a bit like a helmet (the head cast being 3D-printed), permitting head movement. This makes the system more comfortable and allows participants greater freedom, compared to the old-style MEG.

In terms of data quality, the Nature paper shows that the new system measures up well against conventional MEG, even in the presence of head movement. Thus, the new system could allow researchers to measure brain activity while participants perform realistic movements and actions/

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If the cost of MEG does come down in the future, it might help the technique to achieve greater use within neuroscience.

Read full, original post: [Mobile MEG: Will New Technology Change Neuroscience?](#)