Hybrid Spatial and Circuit Optimization for Targeted Performance of MRI Coils

Simulation framework for safer, higher-SNR parallel transmit coils in high-field MRI.

Researchers at Purdue University have developed a novel method for simulating the parallel transmit radiofrequency coil arrays used in Magnetic Resonance Imaging systems (MRIs). This method is capable of accurately modelling all coil components, resulting in similar outcomes of in vivo practice. This first in class methodology has applications as an add-on that yields greater image quality on existing MRI systems by increasing signal over noise. Along with accurately modeling and controlling safety aspects of a parallel transmit coil used in ultra-high field MRI. In summary this technology allows for better MRI imagery system and mitigate risks associated with radiofrequency transmitted power absorbed by the patient.

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