

“Better Images of the Thinking Brain: The RF Rx for Susceptibility Distortions”

Abstract~ Magnetic susceptibility, the material property of becoming magnetized in response to an applied magnetic field, plays a fundamental role in the generation of the desired signal in the most common form of functional MRI (fMRI) – the use of magnetic resonance imaging (MRI) to image human brain function. Unfortunately, magnetic susceptibility is also a major source of image distortions in fMRI. In this talk, I will describe how susceptibility leads to both spatially distorted images as well as signal losses in certain regions of the brain. We will then describe how a variety of new radiofrequency (RF) excitation methods can be used to compensate for the signal loss in hard to image brain regions.