

# System And Method For Performing In Vivo Imaging And Oxymetry By Pulsed Radiofrequency Electron Paramagnetic Resonance

Published date: Feb. 1, 2012

## Technology description

### Summary

This invention provides a non-invasive system for in vivo imaging by fast-response pulsed radiofrequency (RF) electron paramagnetic resonance (EPR) spectroscopy. The imaging system can be used for measurement and 3-dimensional imaging of oxygen and free radicals in living systems, in conjunction with appropriate free radical probes. The short relaxation time of the probes and the fast response associated with pulsed EPR techniques permit virtual real-time imaging. The system uses a magnetic field of only 10 mT-orders or magnitude smaller than the field used in conventional MRI techniques. The sensitivity, image resolution, and imaging speed of the pulsed RF EPR system are far superior to continuous wave RF EPR systems.

### Application area

The system can be used to perform rapid 3-dimensional mapping of tissues and vasculature, for example cardiac and cerebral angiography, and also to distinguish normal and diseased tissues.

### Institution

[NIH - National Institutes of Health](#)

## 联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com