

# Applications of Magnettech's X-Band Benchtop Electron Spin Resonance Spectrometer

Joerg Mueller

<sup>1</sup>Magnettech Ltd., Volmerstrasse 9a, , D-12489 Berlin, Germany

Electron Spin Resonance Spectrometers are usually considered to be devices of big size. Now Magnettech Ltd. offers a benchtop X-band ESR spectrometer that can be purchased by each laboratory. The main features are small size, low weight, a sensitivity comparable to classical spectrometers, easy operating, and a lot of accessories that allow among other things automated routine procedures. With this device almost all research and routine applications can be performed like with a classical spectrometer. The efficiency of this spectrometer shall be shown by examples of its application in several different fields. It is used for direct measurements of vascular NO [1], detection and quantification of oxygen radicals and hydrogen peroxide in whole blood (new method) and detection of radicals in biological fluids, cells and tissue. Antioxidative parameters of liquids can be determined. Transition metals and radicals in solids can be identified. This is only a selection of application examples Magnettech's X-band benchtop ESR-spectrometer is used in.

[1]. Kleschyov A. L., Mollnau H., Oelze M., Meinertz T., Huang Y., Harrison D. G., and Munzel T., *Biochem. Biophys. Res. Commun.*, **275**, 672-677, 2000.