

Diagnostics of Human Body Cavities Using Diode Laser Gas Spectroscopy

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We have developed a technique to measure gas non-intrusive in scattering media, such as human tissue. The technique was first demonstrated for test samples in 2001 by our group and utilizes diode laser absorption spectroscopy to monitor molecular oxygen

and water vapor. The focus of medical application has been on sinuses, both maxillary and frontal sinuses and the potential of the technique has been shown on volunteers. A spin-off company named GasPorOx AB has been formed with the aim to develop a product used to improve the diagnosis of the sinus infections. A portable fiber-guided system has been developed and is used in an ongoing initial clinical trial in collaboration with the Ear, Nose and Throat Clinic, the Oncology and Diagnostic radiology clinics at the Lund University Hospital.