Working Title

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Abstract: We are developing a 3rd generation breast imaging device based on Diffuse Optical Tomography (DOT). The device improves on our previous experience in diffuse optical instruments in several ways. Here we describe the implementation and optimization of various features in our 3rd generation device and present preliminary data from the instrument. New features include very large source-detector pairs, multi-spectral imaging,simultaneous frequency domain and continuous-wave data acquisition through heterodyne detection and profilometery. The performance of our system is measured using solid phantoms and clinical data.

OCIS codes: (000.0000) General.

References and links

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4. D. Yelin, D. Oron, S. Thiberge, E. Moses, and Y. Silberberg, "Multiphoton plasmon-resonance microscopy," Opt. Express **11**(12), 1385–1391 (2003).
5. B. N. Behnken, G. Karunasiri, D. R. Chamberlin, P. R. Robrish, and J. Faist, "Real-time imaging using a 2.8 THz quantum cascade laser and uncooled infrared microbolometer camera," Opt. Lett. **33**(5), 440–442 (2008).

1. Introduction

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2. Methods

3. Results

4. Discussion

4.1. Figures and tables

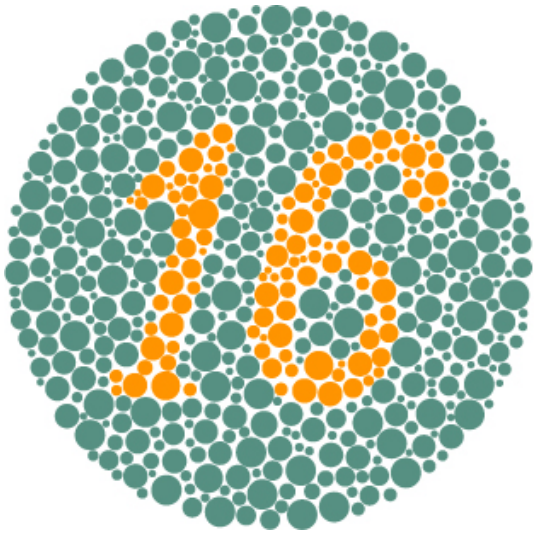

Fig. 1. Sample caption (Ref. [4], Fig. 2).