



In vivo Speckle Imaging of Microvasculature and Tissue Perfusion

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | From imaging instrumentation to in vivo and noninvasive imaging of microvasculature in different biomedical applications | Over past decades medical history has been witnessed for quantifying vascular changes due to tissue injury and diagnosing certain abnormal states by relative measurement of blood flow changes in microcirculation. In this context, speckle contrast imaging techniques have significant potential for in vivo, non-invasive and real-time imaging of microvasculature and tissue perfusion. The objective of this study is to develop computational models for processing of speckle images for quantifying changes in blood flow in pathological states. The study includes applications like: detection and tracking of emboli in vascular model, changes in retinal blood perfusion, label-free retinal angiography and characterization of different regions of cutaneous wound. The wide applicability of speckle based techniques makes it potentially viable for the assessment of microvasculature in different pathophysiological conditions. This study would help shed some light on this sub-surface optical imaging and would be especially useful to researchers in bio-optical imaging domain towards developing an in vivo, label-free and noninvasive imaging modality for patient comfort centric healthcare system. | Format: Paperback | Language/Sprache: english | 192 pp.



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