Rapid Noninvasive Subsurface Imaging of Human Skin *In Vivo*

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Spectrally resolved quantitative reflectance and fluorescence Optical Polarization Imaging (OPI) provides an accurate method for *in vivo* noninvasive rapid subsurface examination of human skin over several centimeter field of view with resolution down to 12 microns [1, 2, 3]. Images acquired at different wavelengths allow for visualization and evaluation of skin layers including epidermis, dermis, and blood plexus. Quantitative analysis of the images enables noninvasive examination of the sizes and density of collagen bundles, blood vessels, and melanin distribution. Particularly important is monitoring changes in the morphology of dermal collagen, which may indicate aging or pathological processes, such as skin cancer. Applications of the OPI for preoperative and intraoperative delineation of skin cancers, as well as for evaluation of skin cosmetic treatments will be presented and discussed.

References:

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