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Methodology on optimizing sensor solutions in microcirculation

Hua Liu Science and Technology on Electro-optic Control Laboratory, China

We will present a simple multiple configuration solution to achieve higher refractive efficiency and reduce the diffused scattering due to FOV change, especially in a two-dimensional spatial expansion. We will discuss methodology on detection of objects below the surface of diffuse scattering media *in vivo* capillaries organs, such as human eyes, using ophthalmology adaptive imaging system based on our patented imaging-device which comprises the step of imaging the object in at least two different angles to obtain coordinates of the objects using a laser having a specific wavelength. Correlative algorithms and perfect imaging methods are used for device optimization. Simulation results show that our imaging-device meets the application requirements in MTF, REA, RMS and other related criteria. Compared with the conventional design, our device has significantly reduced volume and weight. Therefore, the determining factors are the prototype selection and the device configuration.

Melody.h.liu@vip.163.com