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LENS MODELING FOR THE RETINAL SYSTEM

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Abstract

Human Visual System (HVS) though very complex system, but the technological development has made it possible with proper modeling using modular approach. In this modular approach the first module is responsible for capturing the input scene. To capture lens is used. Lens is important component of any imaging or visual system for capturing. When light falls on any object partly it is reflected, and partly refracted after transmitted through the lens. The lens perceives the light reflected from the object. In this reflection the absorption coefficient of the object plays the vital role [1, 3]. In this paper we dealt with parameter that gives the account for the standard deviation, mean and error so that signals are substantial to regenerate the input scene/object. For this purpose the lens is modeled for the real time imaging applications. The results for the standard deviation, Mean and Mean Squared error for the given set of inputs are modeled and simulated for camera focusing. In this case the radial distortion is taken into account and the tangential distortion is ignored.

KeyWords : Camera Calibration, Lens Modeling, Blurring in the lenses, distortion in the lenses, Imaging system, Machine Vision, Human Visual System.