

ROTATION OF ARBITRARY OPTICAL IMAGE
AND THE ROTATIONAL DOPPLER EFFECT

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S u m m a r y

We present a new insight into the understanding of an image rotation by an optical system, based on the rotational Doppler effect (RDE). Any image can be decomposed into a series of Laguerre—Gaussian modes which acquire concerted phase shifts due to the RDE. The interference of the phase-shifted modes exactly produces the whole image rotation. Examples of a specific manifestation of the proposed interpretation and possible applications for the image structure analysis are discussed.