Impact of the Fourier-transform lens aberrations on extracted symbol quality in optical information hiding systems

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This paper presents theoretical description of the symbol Fourier spectrum formation in information hiding systems. Impact of each third-order aberrations on Fourier spectrum is considered separately. It is demonstrated that aberrations cause shifting and scaling in the spatial frequency plane. Impact of aberrations on extracted symbol parameters is analyzed. Requirements to the Fourier-transform lens for optoelectronic information hiding systems design are obtained.

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