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Hybrid objective with corrected chromatism in visible spectrum

Marek Zajac, Jerzy Nowak

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Abstract

The possibilities of chromatic aberration correction in a hybrid (diffractive-refractive) objective are discussed. It is possible to design a hybrid triplet objective free from chromatic aberration in the wavelength range 0.45-0.85 mm practically covering the whole visible spectrum. To that end one of the lenses should be made of special glass, but not necessarily of fluorite. For illustration purposes objectives of relative aperture 1:3 and maximum field-of-view angle $w = 5^\circ$ have been designed and their aberrations presented.



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