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NUMERICAL APERTURE LIMITER

ABSTRACT

The invention provides a numerical aperture limiter for an optical thermal imaging system, comprising at least one pair of wedge-like prisms made of a transparent material having a known index of refraction, the prisms of the pair being disposed in close mutual proximity and in opposite orientation with the narrow end of one prism adjacent to the wide end of the other prism, the prism surfaces facing one another of the pair of prisms being spaced apart from one another by a distance at least equal to the wavelength of the light used by the imaging system, with the vertex angle of each one of the prisms being a function of the desired numerical aperture and the index of refraction. The invention further provides a numerical aperture limiter for an optical thermal imaging system, comprising at least one group of three wedge-like prisms made of a transparent material having a known index of refraction, the prisms of the group being disposed in close mutual proximity and in opposite orientation with the narrow ends of the first and third prisms of the group being adjacent to the wide end of the second prism, the prism surfaces facing one another of the group of prisms being spaced apart from one another by a distance at least equal to the wavelength of the light used by the imaging system, with the vertex angle of the first and third prisms of the group being α and the vertex angle of the second prism of the group being 2α , with α being a function of the desired numerical aperture and the index of refraction.

(FIGURE 1)