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Cook

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(54) **ULTRA COMPACT INVERSE TELEPHOTO OPTICAL SYSTEM FOR USE IN THE IR SPECTRUM**

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See application file for complete search history.

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(57) **ABSTRACT**

An infrared imaging optical system for focusing infrared radiation on an infrared detector, including: a front lens group having a negative optical power to receive infrared radiation and including a first front lens and a second front lens each with at least one aspherical surface; an intermediate lens group that receives the infrared radiation from the front lens group and includes a first intermediate lens, a second intermediate lens, and a third intermediate lens each with at least one aspherical surface; and a rear lens group having positive optical power, wherein the rear lens group receives the infrared radiation from the intermediate lens group and includes a first rear lens and a second rear lens each with at least one aspherical surface, and a third rear lens, wherein the imaging optical system has a stop between the rear lens group and a focal plane at said infrared detector.

18 Claims, 5 Drawing Sheets

