United State

Nakagawa

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[54] **SUPERTELESCOPIC LENS SYSTEM**

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[63] Continuation-in-part of Ser. No. 224,720, Feb. 9, 1972, abandoned.

[30] **Foreign Application Priority Data**

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[51] **Int. Cl.** **G02b 9/60**; G02b 13/02

[58] **Field of Search** 350/214, 215, 216, 220, 350/232

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[57] **ABSTRACT**

A supertelescopic lens system has front and rear groups of lenses spaced apart one from the other by a large air space. The front group of the lens system comprises a positive single first lens, negative single second lens and positive single third lens while the rear group of the lens system comprises a positive single fourth lens and negative single fifth lens. The whole lens system is designed to satisfy the following four conditions

1. $0.45F < f_{123} < 0.6f$,
2. $n_2 > 1.7$ and $n_3 > 1.7$,
3. $0.1f < r_7 < 0.4f$ and $0.1f < r_{10} < 0.4f$,

and

4. $0.45f < f_4 < 0.6f$

where

f is the composite focal length of the whole lens system,

f_{123} the composite focal length of the front group of the lens system,

f_4 the focal length of the fourth lens, and

r_i, d_i and n_i (i=1, 2, 3, ...) the radii of curvatures of respective lenses, axial thicknesses of the respective lenses or air spaces between adjacent lenses and refractive indexes of the respective lenses, respectively.

5 Claims, 13 Drawing Figures