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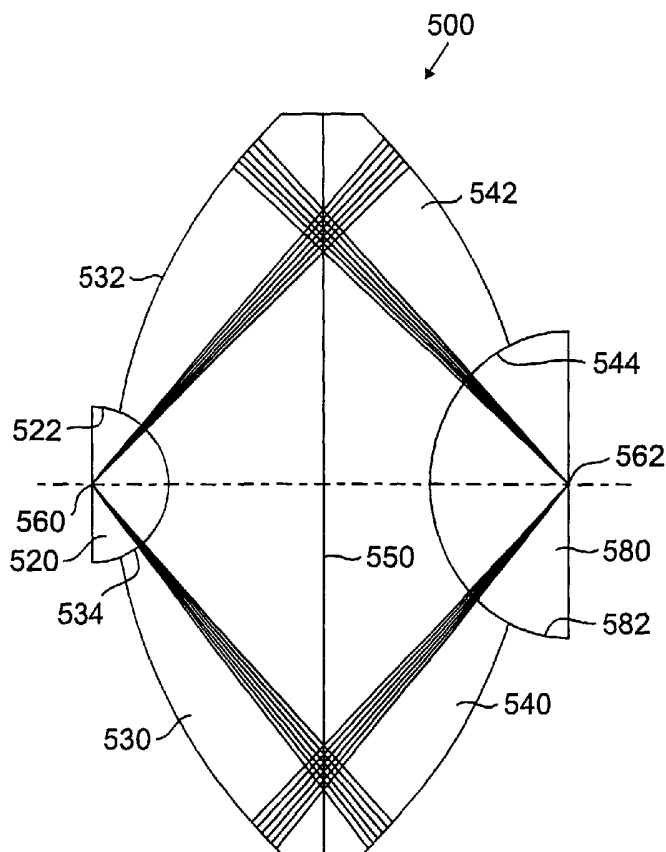
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- (71) Applicant (for all designated States except US): ZETETIC INSTITUTE [US/US]; Suite 206, 1665 E. 18th Street, Tucson, AZ 85716 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): HILL, Henry, A. [US/US]; 340 S. Avenida de Palmas, Tucson, AZ 85716 (US).
- (74) Agent: PRAHL, Eric, L.; Fish & Richardson, P.C., 225 Franklin Street, Boston, MA 02110-2804 (US).
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[Continued on next page]

(54) Title: CATOPTRIC AND CATADIOPTRIC IMAGING SYSTEMS



(57) Abstract: The invention features an imaging system (500) for imaging an object point (560) to an image point (562). The system includes: a beam splitter (550) positioned to receive light rays from the object point (560) and separate each ray into a transmitted portion and a reflected portion defining a first set of rays and the reflected portions defining a second set of rays; and a reflecting surface (532, 542) positioned to receive one of the sets of rays from the beam splitter and focus that set of rays towards the image point (562) via the beam splitter. Interferometric techniques may be applied to increase the light throughput of the system.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/50313**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) :G02B 27/10, 27/14, 3/00, 3/02, 17/00

US CL :359/618, 629, 664, 708, 726, 727

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 359/618, 629, 664, 708, 726, 727, 729, 730, 731, 637, 638, 663

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,241,423 A (CHIU et al) 31 August 1993 (31-08-93), col. 5, line 10 to col. 7, line 18, Fig. 1.	1,2,4,6,7,10,14,15,17,19,22,23,25,26,29
X	US 3,628,027 A (BRAUSS) 14 December 1971(14-12-71), col. 1, line 4 to col. 4, line 3.	1,4,6,25,26,28

 Further documents are listed in the continuation of Box C.
 See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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Box PCT
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Facsimile No. (703) 305-7724

Authorized officer

LOHA BEN *Marcel*
Telephone No. 703-308-4820

INTERNATIONAL SEARCH REPORT

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PCT/US01/50313

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

WEST: (1) catoptric\$4 SAME beam ADJ splitt\$3 SAME reflect\$3

(2) object\$1 NEAR3 point\$1 SAME image\$1 NEAR3 point\$1 and beam ADJ splitt\$3 SAME reflect\$3 SAME
transmi\$5 and aberration\$1 SAME radius NEAR3 curvature