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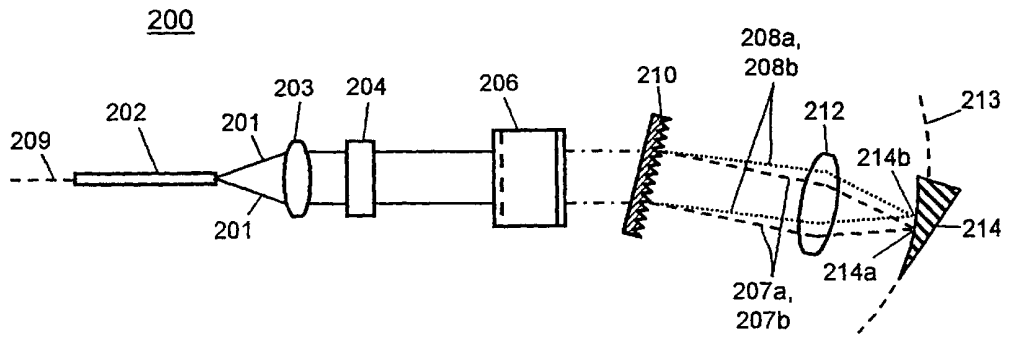
For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TUNABLE CHROMATIC DISPERSION AND DISPERSION SLOPE COMPENSATOR UTILIZING A VIRTUALLY IMAGED PHASED ARRAY



(57) Abstract: The present invention provides a method and system for dispersion compensation for a composite optical signal in an optical fiber transmission system. The composite optical signal includes a plurality of channels, each of the plurality of channels includes a band of wavelengths, where the bands of wavelengths have unwanted dispersion and dispersion slope. The present invention includes propagating the composite optical signal in a forward direction; separating the wavelengths in the band of wavelengths in each of the plurality of channels (207a, 207b, 208a, 208b), where the each of the wavelengths in the band is spatially distinguishable from the other wavelengths in the band; spatially separating each band of wavelengths in the plurality of channels; and reflecting the spatially separated bands of wavelengths toward a return direction (214a, 214b), where dispersion is added to the reflected bands of wavelengths such that the unwanted dispersion and dispersion slope are compensated. The dispersion compensator provides simultaneous tunable compensation of dispersion and dispersion slope.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/15151

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G02B 5/18, 6/34
US CL :359/566; 385/31, 37
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. : 359/566; 385/31, 37

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

359/588, 569, 571, 615

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

USPTO APS EAST
search terms: dispersion, dispersion slope, compensat$, diffraction grating

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,930,045 A (SHIRASAKI) 27 July 1999, see entire document.	1-33

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

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"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
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"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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