METHOD AND SYSTEM TO DIFFERENTIALLY ENHANCE SENSOR DYNAMIC RANGE

Abstract: Effective differential dynamic range in a differential pixel detector (70) is increased by avoiding saturation effects due to common mode contributions in optical energy to be detected. Photocurrent generated by each photodetector (Da) pair is directly integrated by an associated capacitor (Ca) over an integration time T. Within time T, before either integrated capacitor voltage reaches Vsat for the photodetector, at least one of the capacitors is reset to a voltage such that the desired differential detector signal is still determinable. Reset may be generated externally or internally to the differential pixel detector.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US04/11314

A. CLASSIFICATION OF SUBJECT MATTER
   IPC(7) : H01L 27/00
   US Cl. : 250/208.1, 214R
   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)

   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)
   NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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24 MAR 2005

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