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(71) Applicant (for all designated States except US): **RAMOT AT TEL AVIV UNIVERSITY LTD.** [IL/IL]; 32 Haim Levanon Street, 69975 Tel-aviv (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RABNER, Arthur** [IL/IL]; 42-2 Irus HaArgaman Street, 42490 Natania (IL). **SHACHAM-DIAMAND, Yosi** [IL/IL]; 13 HaNotrim Street, P.O. Box 1522, 30900 Zikhron-yaakov (IL). **OKS-MAN, Mark** [IL/IL]; 3 Zahal Street, 59391 Bat-yam (IL).

(74) Agents: **G.E. EHRLICH (1995) LTD.** et al.; 11 Men-achem Begin Street, 52521 Ramat Gan (IL).

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(54) Title: METHOD AND DEVICE FOR DETECTING WEAK OPTICAL SIGNALS

(57) Abstract: An optical detection device is disclosed. The device comprises a photoelectric unit, configured to sense incoming photons and to produce electrical signals pertaining to at least a few of the photons within a plurality of temporally resolved time-windows; an analog-to-digital unit, configured to generate digital representation of the electrical signals; and a digital integrating unit, configured to integrate the digital representation over at least part of the temporally resolved time-windows to provide integrated data corresponding to the photons.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL07/00834

A. CLASSIFICATION OF SUBJECT MATTER

IPC: H01J 31/50(2006.01);H01J 43/30(2006.01)

USPC: 250/214VT,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)

U.S. : 250/214VT, 214R,207, 214.1, 208.2, 208.1, 214DC

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

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,596,980 B2 (RUSU et al.) 22 July 2003 (22.07.2003) column 4, lines 31-64; column 5, lines 5-17.	1-6, 9
Y		7,8, 10-16
Y	US 6,747,258 B2 (BENZ et al.) 8 June 2004 (08.06.2004) column 4, lines 1-7, column 5, lines 35-47, column 6, lines 5-25, column 7, lines 3-15.	17-32



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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
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Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Georgia Y Epps

Telephone No. (571) 272-2800