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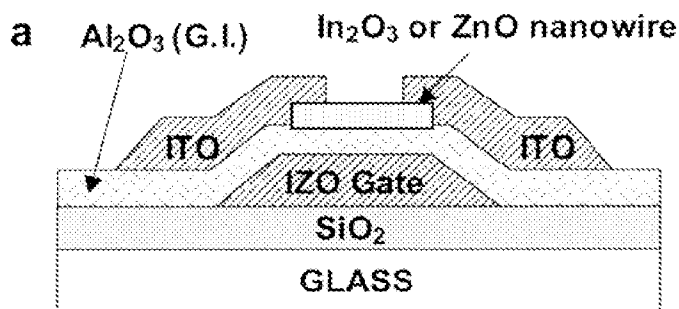
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- (74) Agents: DEKRUIF, Rodney D. et al.; Reinhart Boerner Van Deuren SC., 1000 North Water Street, Suite 2100, Milwaukee, WI 53202 (US).
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- (71) Applicant (for all designated States except US): NORTH-WESTERN UNIVERSITY [US/US]; 633 Clark Street, Evanston, IL 60208 (US).
- (71) Applicants: PURDUE RESEARCH FOUNDATION [US/US]; 3000 Kent Avenue, West Lafayette, IN 47906 (US). UNIVERSITY OF SOUTHERN CALIFORNIA [US/US]; USC Stevens, Hughes Center, Suite EEB 131, 3740 McClintock Avenue, Los Angeles, CA 90089-2561 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MARKS, Tobin, J. [US/US]; 2300 Central Park Ave, Evanston, IL 60201 (US). JANES, David, B. [US/US]; 606 Northridge Drive, West Lafayette, IN 47906 (US). JU, Sanghyun [KR/US]; 226-9 Arnold Drive, West Lafayette, IN 47906 (US). YE, Peide [CN/US]; 7504 Abby Marle E., West Lafayette, IN 47906 (US). ZHOU, Chongwu [CN/US]; 2411 Briargate Lane, Arcadia, CA 91007 (US). FACCHETTI, Antonio [IT/US]; 5412 N. Glenwood Avenue, Chicago, IL 60640 (US).
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(54) Title: TRANSPARENT NANOWIRE TRANSISTORS AND METHODS FOR FABRICATING SAME



(57) Abstract: Disclosed are fully transparent nanowire transistors having high field-effect mobilities. The fully transparent nanowire transistors disclosed herein include one or more nanowires, a gate dielectric prepared from a transparent inorganic or organic material, and transparent source, drain, and gate contacts fabricated on a transparent substrate. The fully transparent nanowire transistors disclosed herein also can be mechanically flexible.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 08/06946

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - H01L 29/12, C01G 15/00, C01G 17/00, C01G 25/02, C01G 19/02 (2009.01)
 USPC - 257/24; 257/E29.07, 427/58
 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)
 IPC(8)- H01L 29/12, C01G 15/00, C01G 17/00, C01G 25/02, C01G 19/02 (2009.01)
 USPC- 257/24; 257/E29.07, 427/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 IPC(8)- H01L 29/12, C01G 15/00, C01G 17/00, C01G 25/02, C01G 19/02 (2009.01)
 USPC- 257/24; 257/E29.07, 427/58 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PubWest (US Patent, PgPub: class. best fit), DialogClassic (Derwent, EPO, USPTO, WIPO/PCT fulltexts: keyword), GoogleScholar;
 search terms: transistor?, nanowire?, Ge, Zn, In, Sn, silyl, siloxan?, stilbazonium?, ozone?, field effect?

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2006/0003485 A1 (HOFFMAN et al.) 05 January 2006 (05.01.2006), para [0008], [0012], [0018]-[0020], [0028], [0032]	1-27
Y	US 2004/0105810 A1 (REN et al.) 03 June 2004 (03.06.2004), para [0004], [0008], [0066], [0081], [0138], [0152], [0171]	1-21, 22, 23, 26
Y	US 2004/0031975 A1 (KERN et al.) 19 February 2004 (19.02.2004), para [0006]-[0009], [0025], [0043], [0060]-[0065], [0072]	22-27
Y	US 2002/0090738 A1 (COZZETTE et al.) 11 July 2002 (11.07.2002), para [0016], [0026], [0036], [0062], [0089], [0120], [0126]	9-16, 25
Y	US 2006/0169788 A1 (EMPEDOCLES et al.) 03 August 2006 (03.08.2006), para [0226], [0319]	27
E, X	WO 2008/089401 A2 (O'ROURKE et al.) 24 July 2008 (24.07.2008), entire document	1-27
P, X	JU et al. "Fabrication of fully transparent nanowire transistors for transparent and flexible electronics," Nature Nanotechnology, Vol 2, pages 378-384, June 2007 (06.2007), entire document	1-27
A	XU et al. "Fabrication and photoluminescence of zinc silicate/silica modulated ZnO nanowires," Nanotechnology, Vol. 16, No. 12, pages 2808-2812, December 2005 (12.2005), entire document	1-27
A	US 6,863,943 B2 (WANG et al.) 08 March 2005 (08.03.2005), entire document	1-27

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 20 February 2009 (20.02.2009)	Date of mailing of the international search report 02 APR 2009
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