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세계대학교의 IEL의 평가

❖ Catherine Forestier 프랑스 (Institut National Polytechnique Toulouse 수석사서)

IEL은 자관에서 가장 가치 있는 공학자료이다. 엔지니어와 교수, 학생과 연구원들은 IEL의 콘텐츠, 특히 Conference proceedings에 대한 우수성을 인정하고 있다.

❖ Dee Magnoni 미국 (Olin College of Engineering 수석사서)

IEL는 자관에서 전기/전자 및 컴퓨터 공학 연구 콘텐츠에서 중요한 부분을 차지한다. Conference proceedings 과 standards는 전기/전자 및 컴퓨터 과학 영역 대부분에서 학술자료 이상으로 우리 학생들에게 도움이 되고있다.

세계대학교의 IEL의 평가

❖ John Dupuis 캐나다 (York University 수석사서)

내가 엔지니어링 및 컴퓨터분야를 전공하는 학생들을 위한
학술 조사를 할 때에, 항상 IEL DB를 강조한다.

만약 그들이 좋은 학점과 좋은 직장을 원한다면
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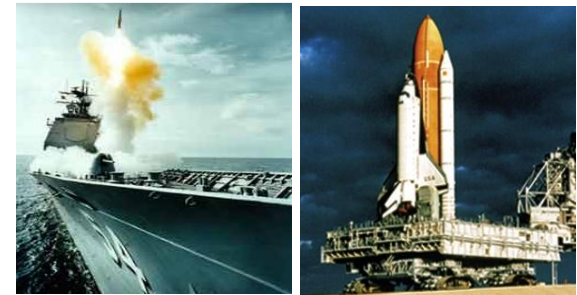
관련분야의 **IEEE**자료 인용사례



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관련 분야에서 혁신을 이끌고 있다.



관련분야별 활용도

✓ 컴퓨터 공학 [Computing]

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컴퓨터 관련 분야에서 **39% 이상의 원천 정보**를 제공



✓ 의공, 생명공학 [Medical Devices]

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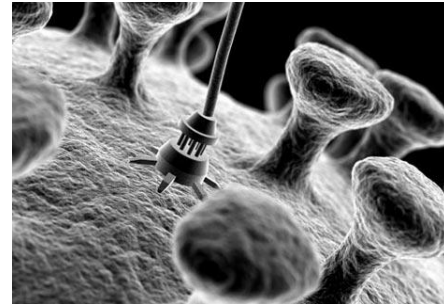
생체 공학 산업에서 매우 중요한 자료로 사용



관련분야별 활용도

✓ 신소재공학 [Nanotechnology]

미세 가공 기술과 관련된 전기, 전자,
기계, MEMS 관련 특허들은 IEEE 자료를
통하여 **해당 분야 전 특허량의
47% 이상을 생산**



✓ 화학, 신소재공학 [Petroleum and Natural Gas]

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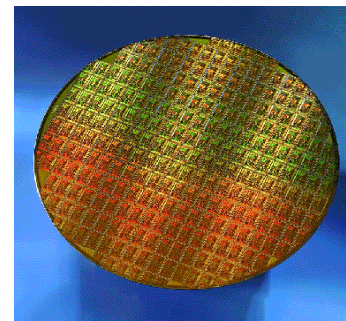
✓ 기계, 신소재공 [Power and Energy]

전 세계 Power, Energy 관련 최고
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General Electric Company 등의 기업에서
IEEE 자료를 통해 많은 연구가 이루어짐.



✓ 전기, 전자공학 [Semiconductors]

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관련분야별 활용도

✓ 정보통신공학 [Telecommunications]

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원천으로 **54%이상 인용**되어짐.



New IEEE Contents



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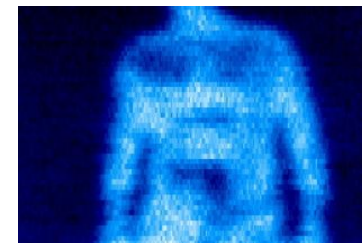
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- ✓ IEEE Journal on Emerging and Selected Topics in Circuits and Systems
- ✓ IEEE Journal of Photovoltaics
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- ✓ IEEE Consumer Electronics Magazine
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- ✓ IEEE RFIC Virtual Journal
- ✓ IEEE RFID Virtual Journal
- ✓ IEEE Wireless Communications Letters



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IEEE-Wiley eBooks - Recently Published

- ✓ Doubly Fed Induction Machine: Modeling and Control for Wind Energy Generation Applications
- ✓ High Voltage and Electrical Insulation Engineering
- ✓ High Voltage Protection for Telecommunications
- ✓ Introduction to Modeling and Simulation of Technical and Physical Systems with Modelica



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- ✓ Software Engineering Process
- ✓ Dual Port SRAM-Data Out Buffer
- ✓ Dual Port SRAM-Writing Bit Cell During Word Line Collision
- ✓ Dual Port SRAM-Write Path
- ✓ Software Configuration Management



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 - IET Electrical Systems in Transportation
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 - IET Networks
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- ✓ 40 Titles+ 이상의 Conferences 자료 제공
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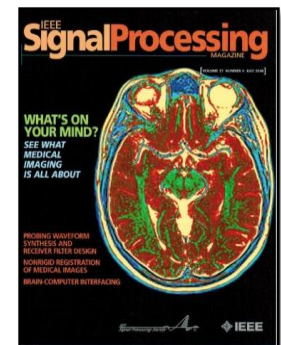
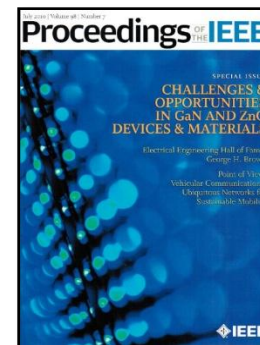
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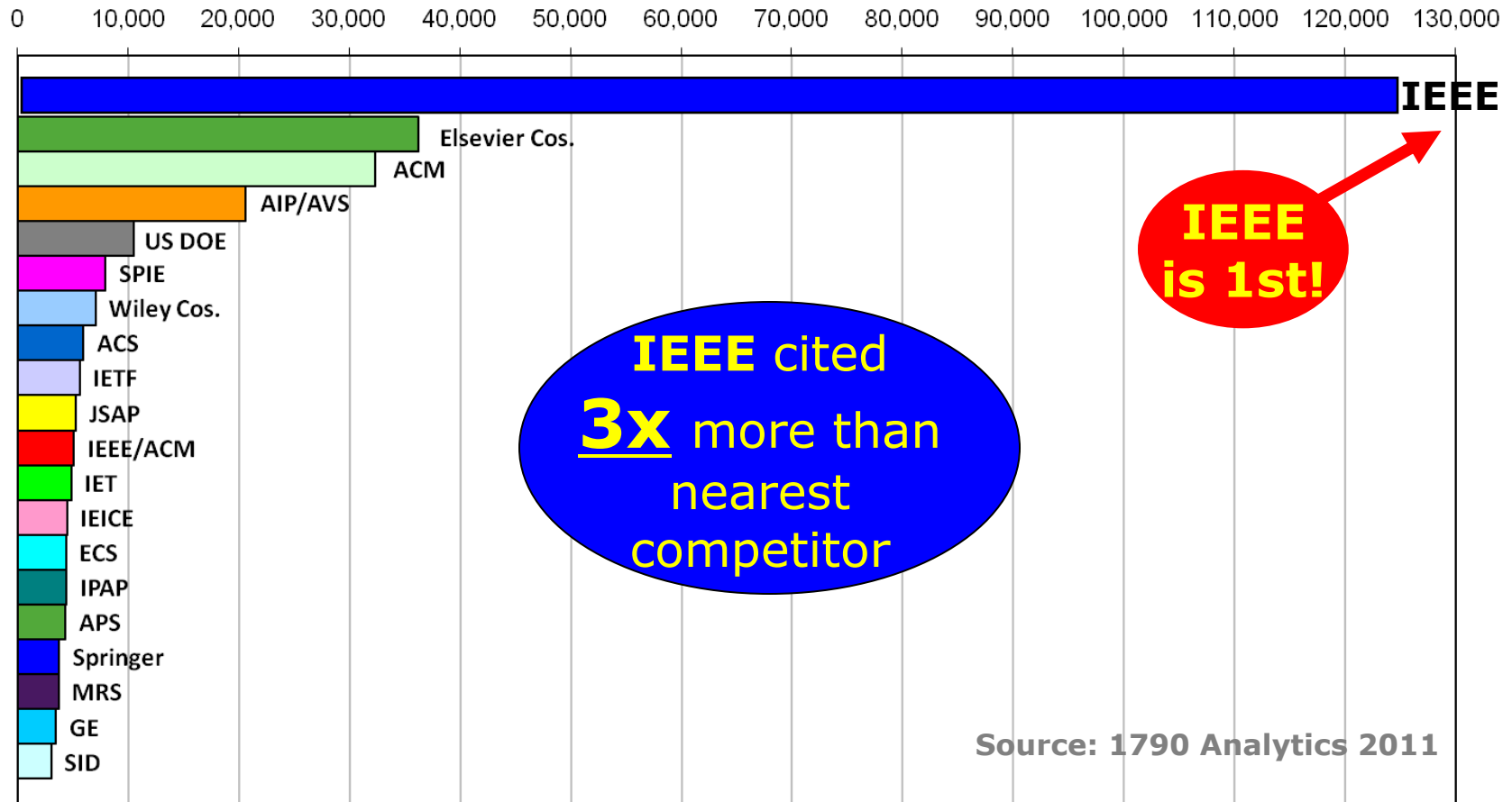
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A Sample Patent from Exxon

United States Patent [19]

Duren et al.

US005182729A

[11] Patent Number: 5,182,729

[45] Date of Patent: Jan. 26, 1993

[54] REDUCTION OF SIDESWIPE NOISE FROM SEISMIC DATA BY NULL STEERING

[75] Inventors: Richard E. Duren, Spring; Stanley V. Morris, Deer Park, both of Tex.

[73] Assignee: Exxon Production Research Company, Houston, Tex.

[21] Appl. No.: 753,743

[22] Filed: Sep. 3, 1991

[51] Int. Cl.⁵ G01V 1/36, G01V 1/28

[52] U.S. Cl. 367/38; 367/21; 367/59; 367/43

[58] Field of Search 367/20, 21, 24, 38, 367/42, 53, 56, 58, 59, 61

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Primary Examiner—Ian J. Lobo
 Attorney, Agent, or Firm—Pravel, Gambrell, Hewitt, Kimball and Krieger

[57] ABSTRACT

Disclosed is a seismic surveying and data processing method to filter from seismic data any energy contributions that are not in the seismic line of profile. The surveying method requires a receiver geometry wherein at least one receiver is in and at least one receiver is out of the line of profile, so that in common offset gather or shot record plots, seismic events along the line of profile are aligned in time and out-of-plane energy takes the form of a series of sawtoothed seismic events arriving at different times in the different lines of receivers. Knowing the number of out-of-plane energies and their respective dips allows for the design of a filter, which is applied to the data with a computer, to null and thereby remove the effects of unwanted out-of-plane energy from the seismic survey data.

11 Claims, 30 Drawing Sheets

References
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Publications

Source: Results of search of USPTO Patent Full-Text and Image Database



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삼성전자 미국내 기업 특허순위 16위

삼성전자와 대우전자가 지난해 미국 내 기업의 특허 출원 순위에서 16위와 46위를 각각 차지했다. 13일 한국무역협회 워싱턴 지부가 입수한 미국의 특허 관련 정보지 IFI 플래넘사(社)의 통계에 따르면 미국 내 최대 특허 출원 기업은 IBM으로 지난해 모두 1,742건을 출원해 5년 연속 1위에 올랐다. 2, 3위는 일본의 캐논(1,381건)과 NEC(1,101건)가 각각 차지했다. 한국 기업으로는 삼성전자가 556건을 출원해 16위에 올랐으며 대우전자가 213건으로 46위를 차지했다. 한편 미국 내 10대 특허 출원 기업 가운데는 IBM과 모토롤라(4위) 이스트먼 코닥(10위) 등 미국 기업이 3개에 불과하고 나머지 7개는 모두 일본 업체들이다.

1998년 특허등록 순위

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9	1514	혼하이프리스전인더스트리	대만
10	1465	히탈치	일본
11	1448	제너럴일렉트릭(GE)	미국
12	1411	LG전자	한국
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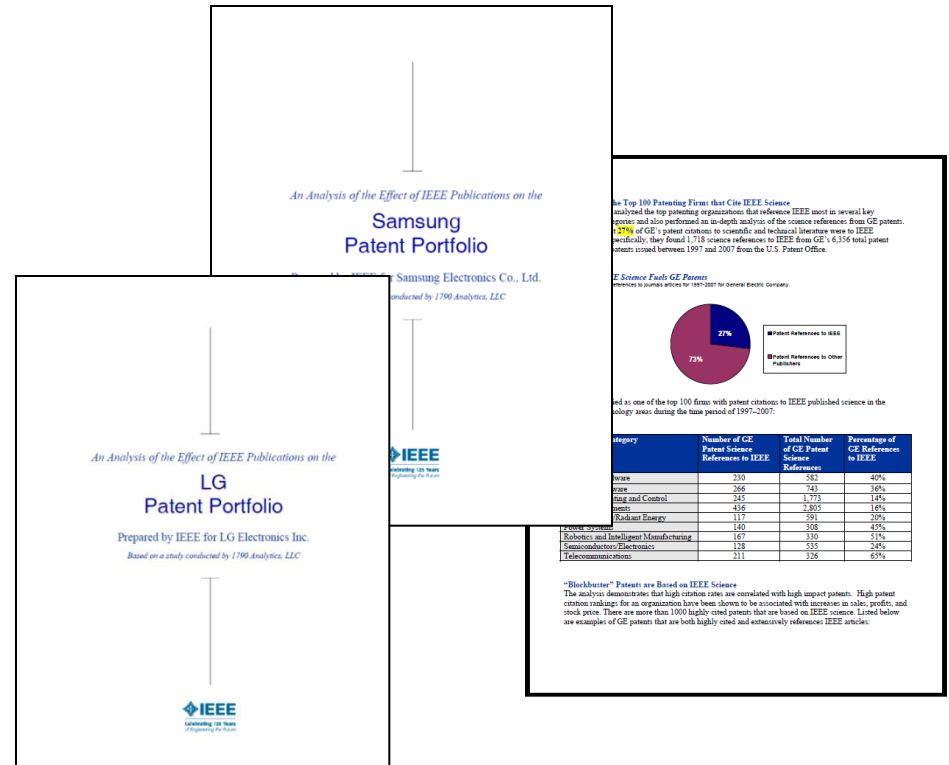
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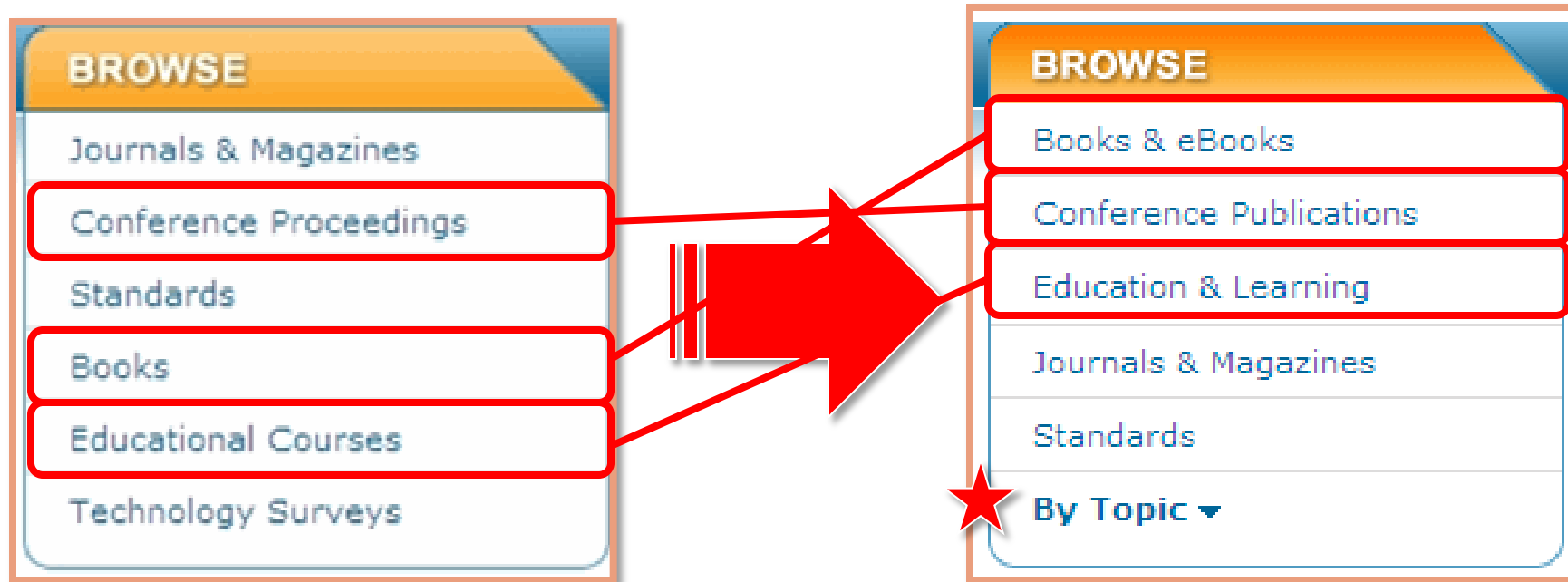
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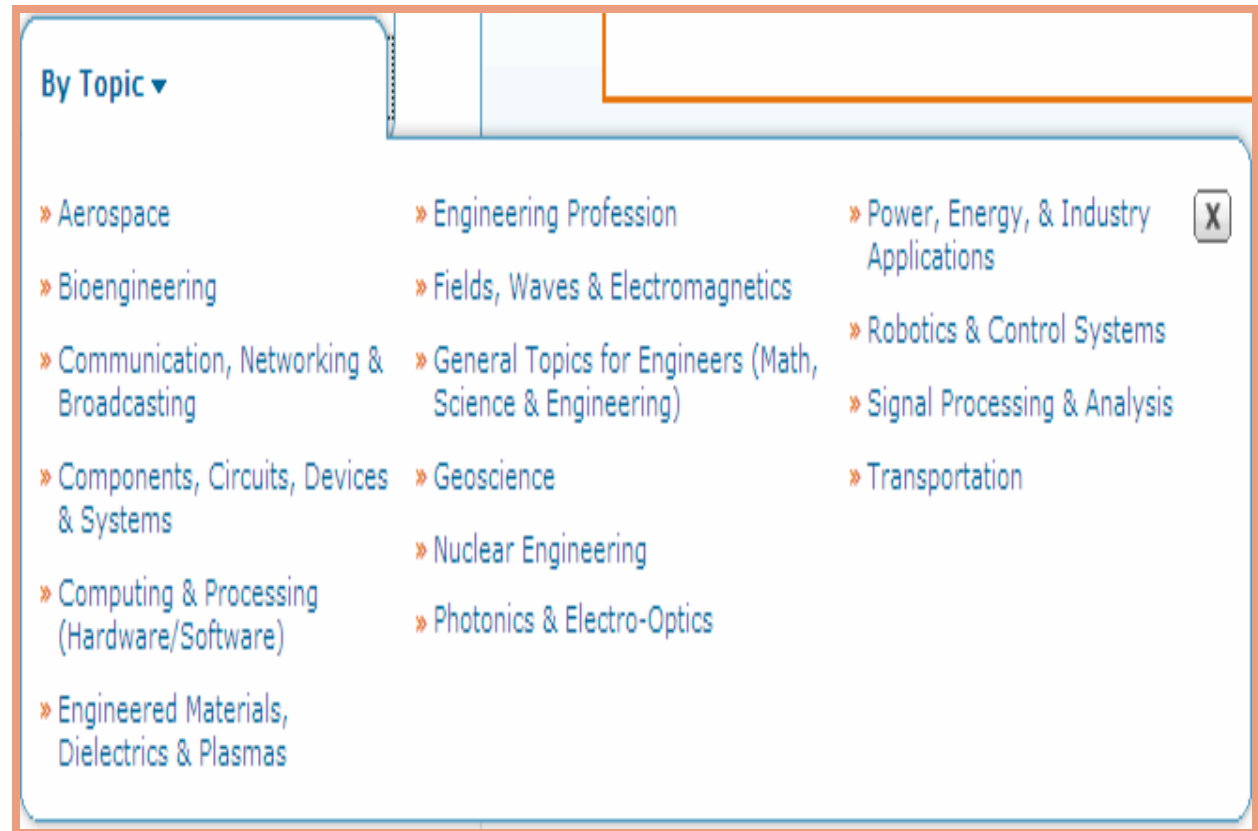
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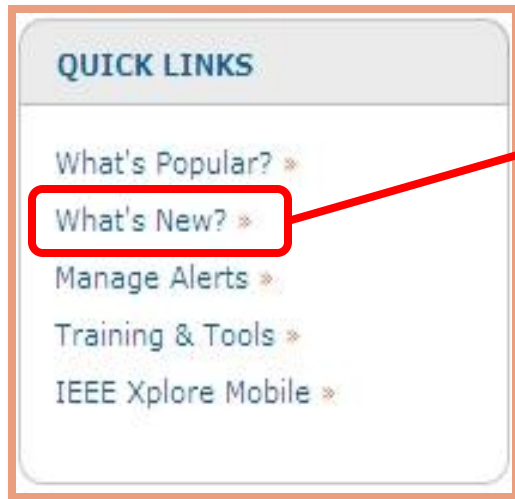
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Evolution of the Global Navigation Satellite System (GNSS)

This growing civil aviation system is expected to replace a significant number of ground based navigation systems and allow for more efficient use of the world wide airspace.

By CHRISTOPHER HEGARTY

ABSTRACT | The Global Navigation Satellite System (GNSS) is the worldwide set of satellite navigation constellations, civil aviation augmentations, and user equipment. This paper reviews the current status and future plans of the elements of GNSS as it pertains to civil aviation. The paper addresses the following satellite navigation systems: the U.S. Global Positioning System (GPS), Russian GLONASS, European Galileo, Chinese Compass, Japanese Quasi Zenith Satellite System, and Indian Regional Navigation Satellite System. The paper also describes ground-based augmentation systems including aircraft-based, satellite-based, ground-based, and ground-based augmentation systems defined by the International Civil Aviation Organization. The paper details typical user equipment configurations and civil aviation applications of GNSS including navigation, timing, and warning systems.

Fig. 1. Block IIA satellite.

the time of the writing of this paper, six of eight modernized Block IIR (IIR-M) satellites have been launched. The Block II and IIA satellites were built by Rockwell International, and the Block IIR and IIR-M satellites were built

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Evolution of the Global Navigation Satellite System (GNSS)

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Fig. 2.

Fig. 3.



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This article appears in *Proceedings of the IEEE*.

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SECTION I INTRODUCTION

JUMP



The International Civil Aviation Organization (ICAO) defines the Global Navigation Satellite System (GNSS) as "a worldwide position and time determination system that includes one or more satellite constellations, aircraft receivers and system integrity monitoring, augmented as necessary to support the required navigation performance for the intended operation" [1]. This paper reviews the current status and future plans for the components of GNSS and civil

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Global Positioning System, aircraft navigation, avionics

Authors Keywords

Aircraft-based augmentation system (ABAS), automatic dependent surveillance (ADS), Compass, Galileo, ground-based augmentation system (GBAS), GLONASS, Global Navigation Satellite System (GNSS), Global Positioning System (GPS), ground-based regional augmentation system (GRAS), Indian Regional Navigation Satellite System (IRNSS), Quasi Zenith Satellite System (QZSS), satellite-based augmentation system (SBAS), terrain awareness warning system (TAWS)

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Fig. 1. Block IIR-M satellite.

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Fig. 1. Block IIR-M satellite.

the time of the writing of this paper, six of eight modernized Block IIR (IIR-M) satellites have been launched. The Block II and IIA satellites were built by Rockwell International, and the Block IIR and IIR-M satellites were built

1994 [8]. The commitment to provide GPS SPS service was reiterated in 2007 [9], with an additional commitment made at that time to provide GPS satellite-based augmentation system (SBAS) services in North America, free of direct user charges, through the FAA's Wide Area Augmentation System (WAAS) (see Section III-A for a description of SBASs, including WAAS).

At one time, the accuracy of the SPS was intentionally degraded using a technique referred to as selective availability (SA), which was observed to be implemented as a pseudorandom dithering of the satellite clock that could be removed only by GPS receivers with knowledge of the generation algorithm and cryptographic keys [3]. On May 1, 2000, the intentional degradation of SPS performance due to SA was ceased [10]. More recently, in September 2007, the United States announced that the capability to implement SA will be removed from future GPS satellite procurements [11].

The specified accuracy of the GPS SPS is 13 m, 95% for horizontal positioning and 22 m, 95% for vertical positioning [6]. This specification is for the signal-in-space (SIS) only (i.e., it does not include errors due to the atmosphere, multipath, or user equipment) and is based upon a global average. Actual performance is typically significantly better than the specification. For instance, the observed 95% horizontal and vertical positioning accuracy

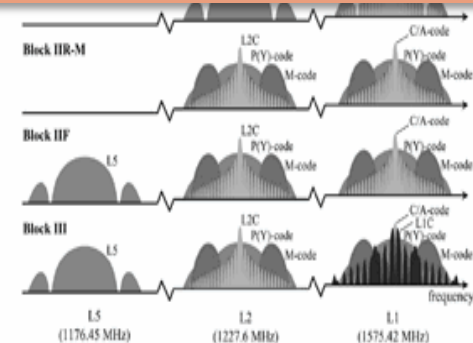


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Christopher J. Hegarty
Senior Member, IEEE

Christopher J. Hegarty (Senior Member, IEEE) is a Director with The MITRE Corporation, Bedford, MA where he works primarily on aviation applications of GPS. He is currently President of The Institute of Navigation and Chair of RTCA, Inc.'s Program Management Committee. He coedited/coauthored *Understanding GPS: Principles and Applications*, 2nd ed. (Norwood, MA: Artech House, 2006).

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Eric Chatre

Eric Chatre graduated as an Electronics Engineer from Ecole Nationale de l'Aviation Civile, Toulouse, France, in 1992.

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The International Civil Aviation Organization (ICAO) System (GNSS) as “a worldwide position and time of more satellite constellations, aircraft receivers and as necessary to support the required navigation performance. This paper reviews the current status and future plans for aviation applications.

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SECTION II CONSTELLATIONS

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A. Global Navigation Satellite Systems (GNSS)
Current international GNSS standards for civil aviation—ICAO's Standards and Recommended Practices (SARPs) [1]—address only two core constellations: the U.S. Global Positioning System (GPS) and the Russian Federation's GLONASS. The ICAO Navigation Systems Panel (NSP), chartered with updating the GNSS SARPs, has on its current work program the addition of material on Galileo, an emerging European satellite navigation system.

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