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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
그들은 우수한 IEEE자료들을 필요로 할 것이다.



관련분야의 **IEEE**자료 인용사례



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2012/5/29

4

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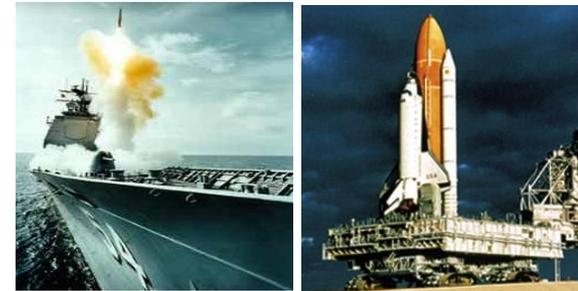


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관련분야별 활용도

✓ 항공우주, 기계공학 [Aerospace and Defense]

IEEE 자료는 Aerospace & Defence 분야에서 **Raytheon, Hughes Electronics, BAE, Honeywell, Harris, the U.S. Air Force** 의 기관들에서 많은 참조



✓ 기계자동차공학 [Automotive]

IEEE 자료는 자동차 **전자장비, 하이브리드** 관련 분야에서 혁신을 이끌고 있다.



관련분야별 활용도

✓ 컴퓨터 공학 [Computing]

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컴퓨터 관련 분야에서 **39% 이상의 원천 정보**를 제공



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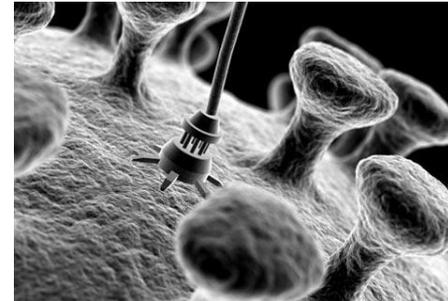
생체 공학 산업에서 매우 중요한 자료로 사용



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]

IEEE 자료는 석유, 천연 가스 관련 기업
및 R&D 부서에 매우 **다양한 에너지
원천 정보를 제공**



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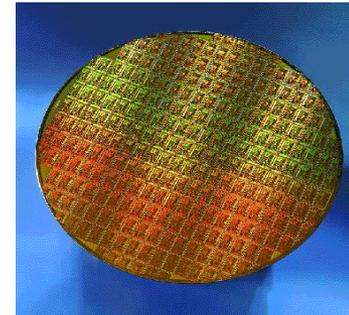
✓ 기계, 신소재공 [Power and Energy]

전 세계 Power, Energy 관련 최고
기업들인 **ABB Ltd., Alcatel-Lucent,**
Emerson Electric, Intel, Toshiba,
General Electric Company 등의 기업에서
IEEE 자료를 통해 많은 연구가 이루어짐.



✓ 전기, 전자공학 [Semiconductors]

28% 이상의 반도체 관련 특허,
46% 이상의 정보 저장 관련 특허가
IEEE의 최신 자료를 통해 생산.



관련분야별 활용도

✓ 정보통신공학 [Telecommunications]

전자 통신 관련 분야에서 IEEE 자료를
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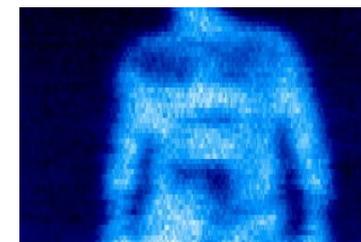
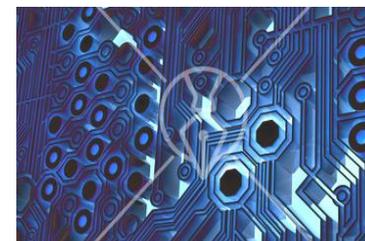
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- ✓ IEEE Journal on Emerging and Selected Topics in Circuits and Systems
- ✓ IEEE Journal of Photovoltaics
- ✓ IEEE Transactions on Terahertz Science and Technology



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New Information - contents

New IEEE Journals Title - 2012

- ✓ IEEE Consumer Electronics Magazine
- ✓ IEEE Electromagnetic Compatibility Magazine
- ✓ IEEE RFIC Virtual Journal
- ✓ IEEE RFID Virtual Journal
- ✓ IEEE Wireless Communications Letters



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



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



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The Institution of Engineering Technology

- ✓ New Journals Titles – 2011
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- ✓ 컴퓨터, 광통신, RFID기술 등 다양한 기술정보 제공
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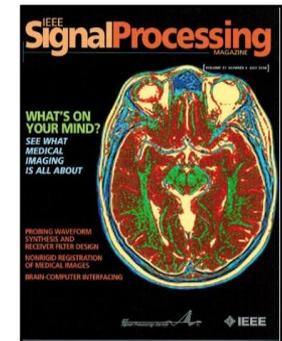
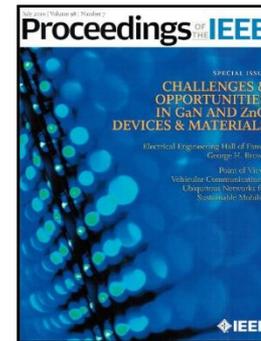
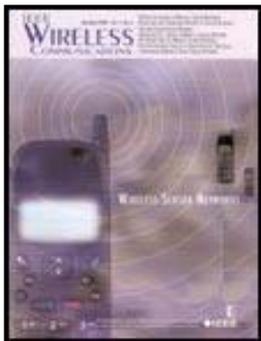
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- 3 of top 5 journals in CS, Software Engineering
- 3 of the top 5 journals in Automation & Control Systems
- 2 of the top 5 journals in CS, Artificial Intelligence



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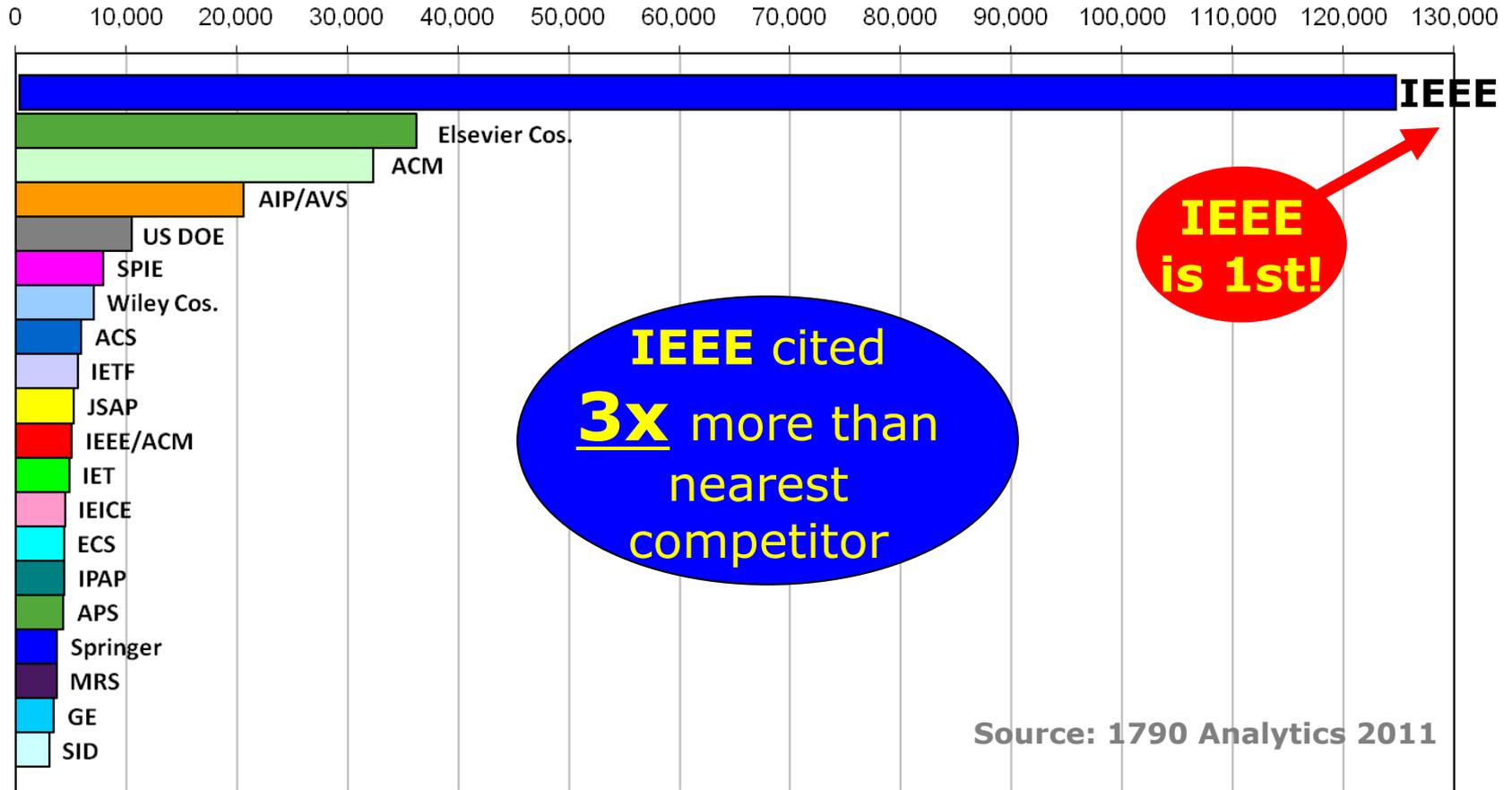
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A Sample Patent from Exxon

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.:** 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, 367/43, 53, 56, 58, 59, 61

and Propagation, vol. AP-34, No. 5 (May 1986), pp. 702-710.
Rissanen, J., *Modeling by Shortest Data Description*.
Shan, t., & Kailath, T., *Adaptive Beamforming for Coherent Signals and Interference*, IEEE Transactions on Acoustics, Speech, and Signal Processing, vol. AS-SP-33, No. 3 (Jun. 1985), pp. 527-536.
Wax, M. & Ziskind, I., *Detection of the Number of Coherent Signals by the ML-D Principle*, IEEE Transactions on Acoustics, Speech, and Signal Processing, vol. 37, No. 8, (Aug. 1989), pp. 1190-1196.
Widrow, B., Duvall, K. M., Gooch, R. P. & Newman, W. C., *Signal Cancellation Phenomena in Adaptive Antennas: Causes and Cures* IEEE Transactions on Antennas and Propagation, vol. AP-30, No. 30 (May 1982), pp. 469-478.
Ziskind, I. & Wax, M., *Maximum Likelihood Localization of Multiple Sources by Alternating Projection*, IEEE Transactions on Acoustics Speech, & Signal Processing, vol. 36, No. 10 (Oct. 1988), pp. 1553-1560.

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 Cited

U.S. PATENT DOCUMENTS

3,299,397	1/1967	Pavey et al.	367/24
3,550,073	12/1970	Foster et al.	367/53
3,858,168	12/1974	Barr et al.	367/43
4,034,333	7/1977	Cunningham	367/46
4,380,059	4/1983	Ruehle	367/46
4,437,175	3/1984	Berni	367/24
4,705,761	8/1984	Rietsch	367/43
4,486,865	12/1984	Ruehle	367/24
4,740,929	4/1988	Ehlers et al.	367/46
4,758,998	7/1988	Johnson et al.	367/58
4,853,902	8/1989	Corrigan	367/44
4,853,903	8/1989	Linville et al.	367/46
4,910,716	3/1990	Kirlin et al.	367/24
4,992,995	2/1991	Favret	367/43

FOREIGN PATENT DOCUMENTS
1256193 6/1989 Canada

OTHER PUBLICATIONS
Bresler, Y., Reddy, V. U., & Kailath, T., *Optimum Beamforming for Coherent Signal and Interferences*, IEEE Transactions on Acoustics, Speech, and Signal Processing, vol. 36, No. 6 (Jun. 1988), pp. 833-843.
Luthra, A. K., *A Solution to the Adaptive Nulling Problem with a Look-Direction Constraint in the Presence of Coherent Jammers*, IEEE Transactions on Antennas

References to IEEE Publications

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



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Patent Reference

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 모토롤러(4위) 이스트먼 코닥(10위) 등 미국 기업이 3개에 불과하고 나머지 7개는 모두 일본 업체들이다.

1998년 특허등록 순위

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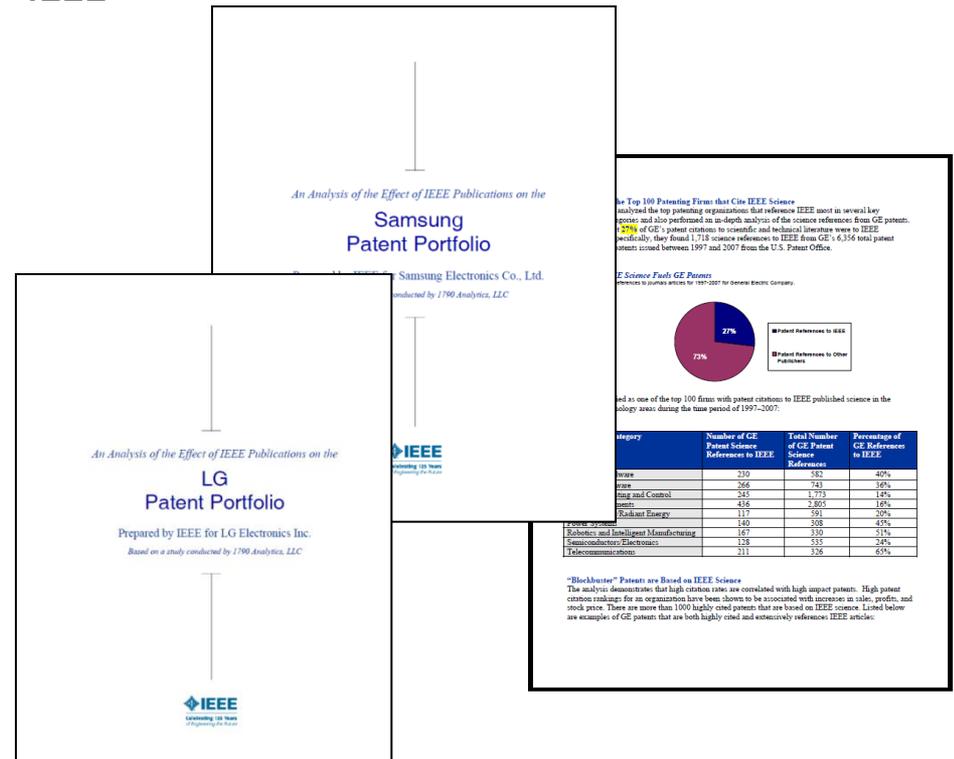
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The screenshot displays the IEEE Xplore Digital Library homepage. At the top left, the 'IEEE Xplore DIGITAL LIBRARY' logo is visible. The main navigation bar includes 'BROWSE', 'MY SETTINGS', and 'WHAT CAN I ACCESS?'. A search bar in the center shows 'Search 3,171,804 items' with a 'SEARCH' button. Below the search bar are links for 'Advanced Search', 'Preferences', 'Search Tips', and 'More Search Options'. On the left side, there are two 'BROWSE' menus: one for 'BROWSE' with categories like 'Journals & Magazines' and 'Books & eBooks', and another for 'BROUGHT TO YOU BY' featuring the IEEE logo and a list of services including 'IEEE Sales', 'IEEE-Wiley eBooks Library', and 'IEEE eLearning Library'. Below these are 'QUICK LINKS' for 'Manage Alerts', 'Training & Tools', and 'IEEE Xplore Mobile'. At the bottom of the main content area, there are tabs for 'Highlights', 'What's Popular', and 'Most Recent'. A 'MORE HIGHLIGHTS' section shows a list of items (1-6) and a featured article titled 'New IEEE Business Platform is Now Live' with a 'NEW FEATURES NOW RELEASED' graphic. The article text states: 'We are pleased to announce the new IEEE Business Platform is now live. This suite of applications is powered by a new services-oriented architecture including key enhancements to the IEEE Xplore digital library, IEEE Membership join and renewal, individual account profile management and the IEEE eCommerce experience.' Below the article are three links: 'Learn more about the new features', 'View a video demonstration of the new features', and 'Sign up for live webinar training'.

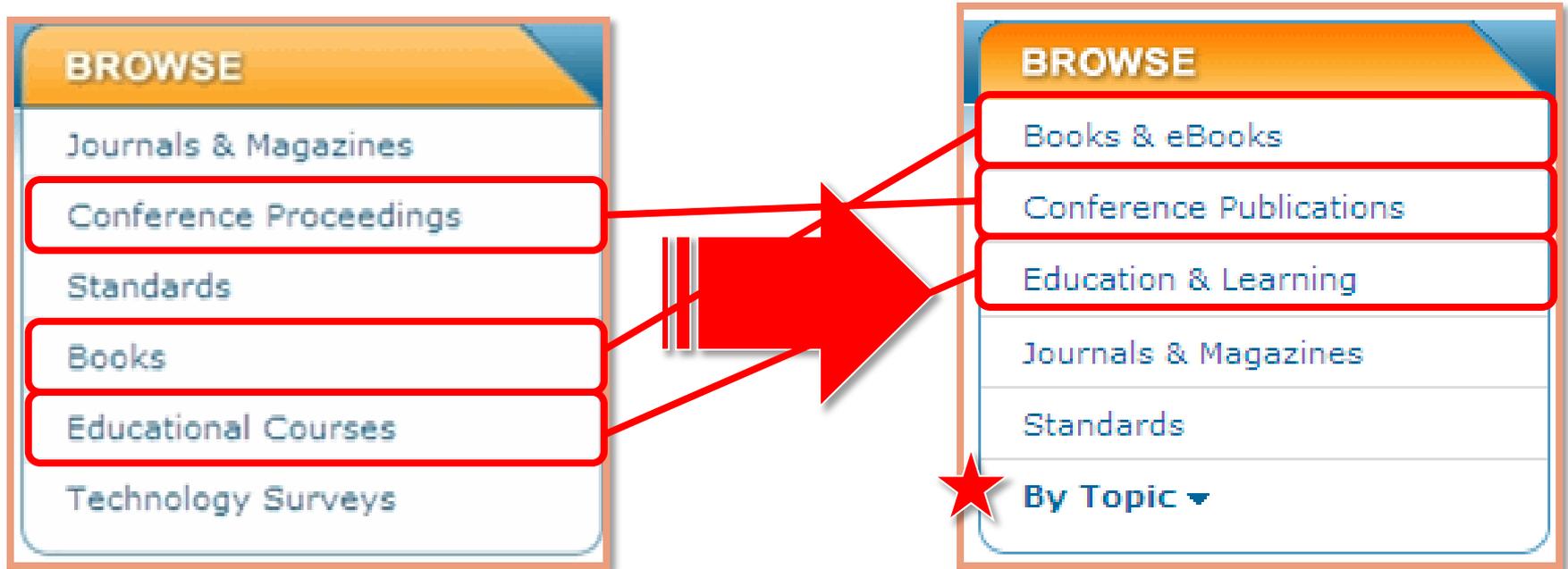


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Data Fields	Controlled Terms
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Authors	INSPEC Non-Controlled Terms
Publication Title	ISBN
Abstract	ISSN
Index Terms	Issue
Author Affiliation	MeSH Terms
Accession Number	PACS Terms
Article Number	Parent Publication Number
Author Keywords	Publication Number
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REFERENCES

CITING DOC

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Deb, K.; Pratap, A.; Agarwal, S.; Meyarivan, T.
[Evolutionary Computation, IEEE Transactions on](#)
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REFERENCES

- 1- What you will want next and the really smart house
- 2- A survey of routing techniques for mobile communication networks
- 3- A perspective on multiaccess channels
- 4- MACA: A new channel access method for packet radio
- 5- MACAW: A media access protocol for wireless LANs
- 6- Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications

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- 1- Optimizing route-cache lifetime in ad hoc networks
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INVITED PAPER

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

PDF

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, performance-based navigation, terrain awareness and warning systems, and timing.



Fig. 1. Block IIA satellite.

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 SBAS, 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 PPS 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

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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Fig. 1. Block IIA satellite.

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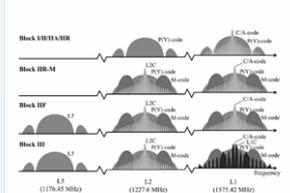


Fig. 2.

Fig. 3.



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This article appears in *Proceedings of the IEEE*.

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SECTION I INTRODUCTION

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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 IIA satellite.

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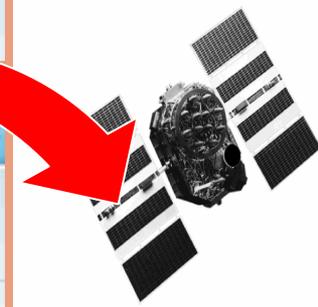


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Fig. 2.

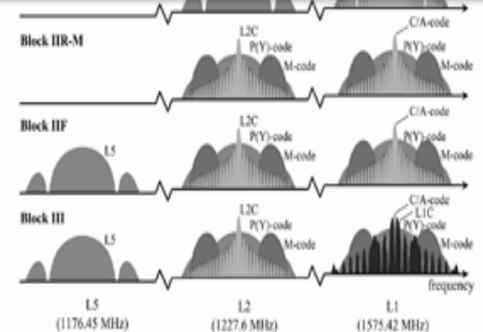


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1. ICAO

Annex 10 to the Convention of International Civil Aviation, Montreal, PQ, Canada, Jul. 17, 2007, vol. I, Radio Navigation Aids, Amendment 82

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2. NAVSTAR: Global positioning system—Ten years later

B. Parkinson, S. Gilbert
Proc. IEEE, 1983-10

▶ Show Context

3. B., Parkinson

J. J., Spilker, Jr., Global Positioning System: Theory and Applications, Washington, D.C., AIAA, 1996, vol. I

▶ Show Context

4. E., Kaplan, C., Hegarty eds.,

Understanding GPS: Principles and Applications, ed. 2nd, Norwood, MA, Artech House, 2006

▶ Show Context

5. Global Positioning System: Signals, Measurements, and Performance

P. Misra, P. Enge ed. 2nd, Lincoln, MA, Ganga-Jamuna, 2006

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SECTION I INTRODUCTION

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- I. INTRODUCTION
- II. CONSTELLATIONS
- III. AUGMENTATIONS
- IV. AIRCRAFT RECEIVERS
- V. AVIATION APPLICATIONS
- VI. SUMMARY AND CONCLUSIONS

The International Civil Aviation Organization (ICAO) defines the Global Navigation Satellite System (GNSS) as “a worldwide position and time determination system that uses more satellite constellations, aircraft receivers and ground stations, as necessary to support the required navigation performance for a given operation. This paper reviews the current status and future plans for GNSS in civil aviation applications.

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SECTION II CONSTELLATIONS

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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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