

From Idea to Patent: Prior Art Searching with IEEE *Xplore* & *More*

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IEEE *Xplore*[®]
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Agenda

- What is “prior art?”
- Objective of prior art searching
- Search strategies in IEEE *Xplore*
- Search strategies in InnovationQ Plus
- Other patent resources



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New IEEE Journals Coming in 2017

In 2017, IEEE will introduce six new journals that will be available for subscription:

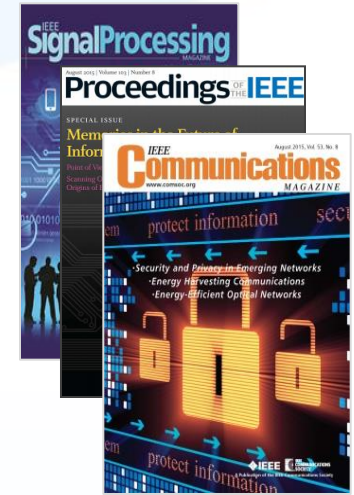
- *IEEE **Communications Standards Magazine***
- *IEEE Journal of **Electromagnetics, RF and Microwaves in Medicine and Biology***
- *IEEE Trans. on **Emerging Topics in Computational Intelligence***
- *IEEE Trans. on **Green Communications and Networking***
- *IEEE Trans. on **Radiation and Plasma Medical Sciences***
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More than 60 new journals added in the last ten years

IEEE Quality Makes an Impact

- Top cited publications in the world are from IEEE*
 - 17 of the top 20 journals in EE
 - 17 of the top 20 journals in Telecommunications
 - 7 of the top 10 journals in Computer Science, Hardware
- IEEE information is cited in patents 3x more than any other publisher (Source – 1790 Analytics)
- Recent user studies demonstrate that users rely on IEEE *Xplore* to:
 - Increase productivity
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Based on the Thomson Thomson Reuters Journal Citation Report study released June 2015

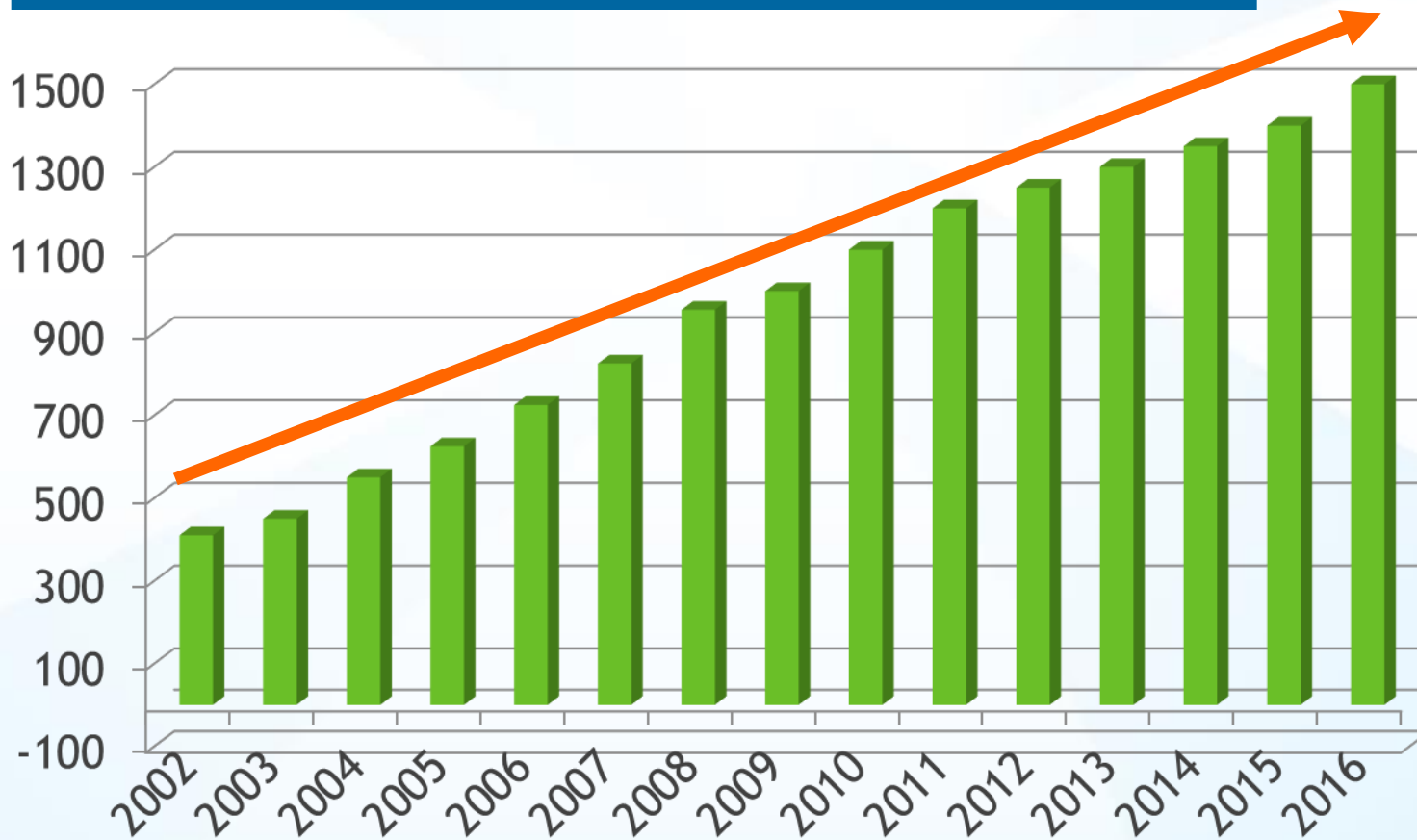
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Over 2.5 million total papers



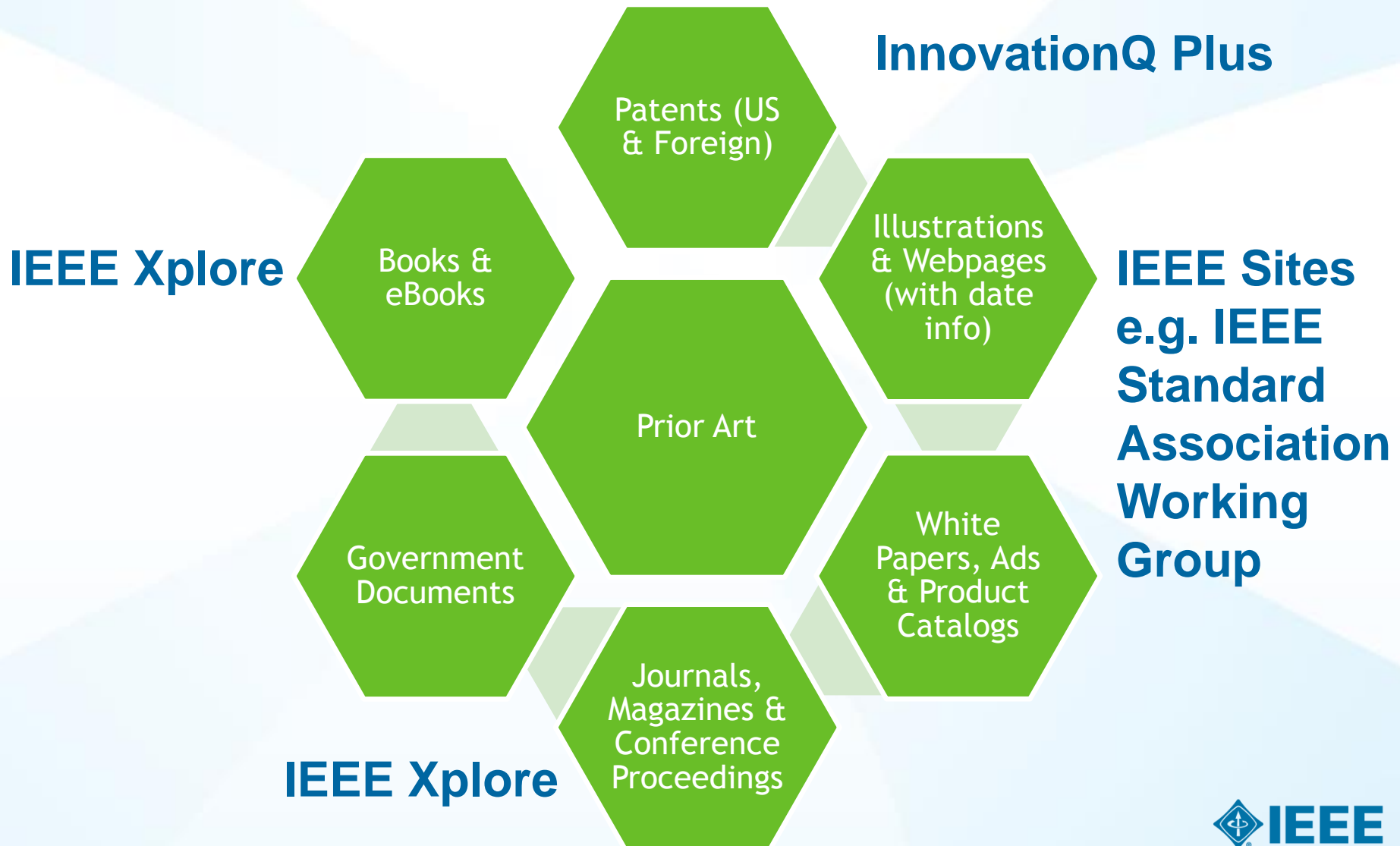
Prior Art

What is “Prior Art?”



- Prior art is **information publicly available** which is **relevant to a patent or patent application’s claim of originality**
- Must be published in print or electronically **before the filing date of the patent application in question**
- Encompasses technology that was known before and relevant to a patent’s claims of originality
- Earlier filed and unpublished patent applications can qualify as prior art

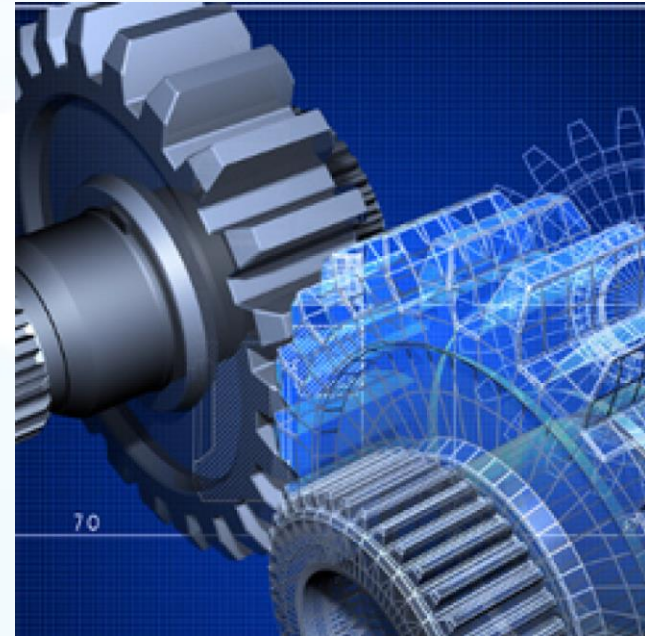
Examples of Prior Art



What is Patentable?

Criteria for an invention to be patentable:

- **Novelty:** invention should be new and not a part of prior art
- **Utility:** capable of use for at least one industrial purpose
- **Non-obvious:** invention should have a technical advance or economic significance



Reasoning For Prior Art Searching

- Ensure the idea is new
- Prepare for the application process
- Increase awareness of the product
- Prepare for legal consultation
- Reduce patent attorney and patent agent fees



Are university researchers at risk for patent infringement?

- “Academic researchers have regularly ignored patents on key technologies as a strategy to maneuver around patent thickets and freedom-to-operate issues, but they may be more at risk than they realize.”
- “An earlier report to the National Academy of Sciences suggests ...regular infringement of patents by university researchers, which is neither a sustainable nor a desirable solution.”

— Amy Yancey & C Neal Stewart Jr. *Are university researchers at risk for patent infringement?* Nature Biotechnology 25, 1225 - 1228 (2007)

Improving Patent Quality: The Challenges Inventors Face

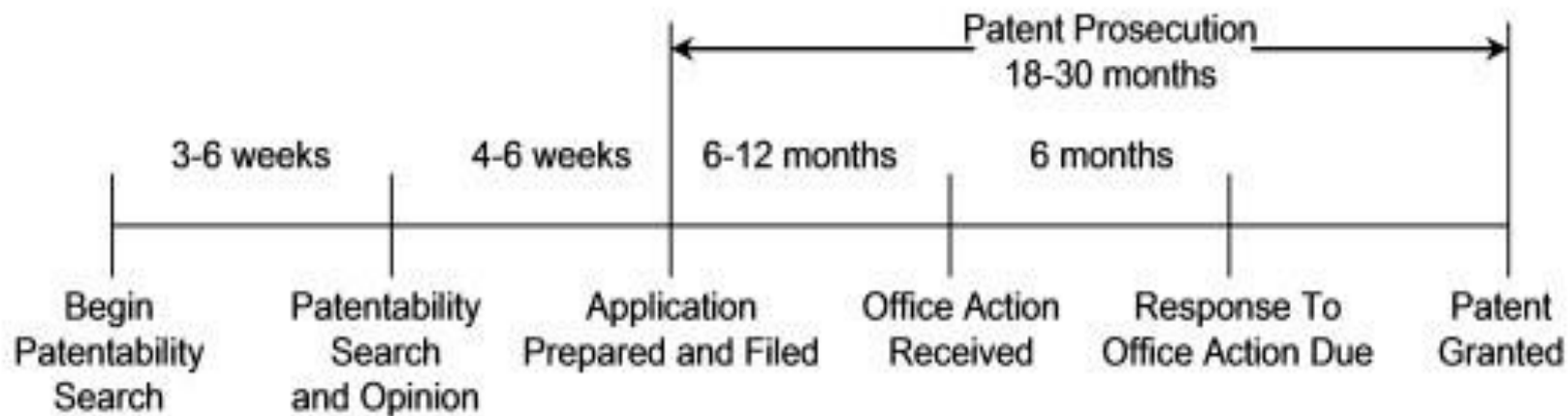
- Current backlog of over 600,000 patent applications at the US Patent and Trademark Office
- Of these applications, over 40% are repeat filings
- After two years of validity reviews, 77% of patents granted are determined invalid



From Idea to US Patent

Model Patent Timeline

Application Preparation & Prosecution Timeline



Prior Art Searching with *IEEE Xplore*

IEEE Xplore Digital Library includes...

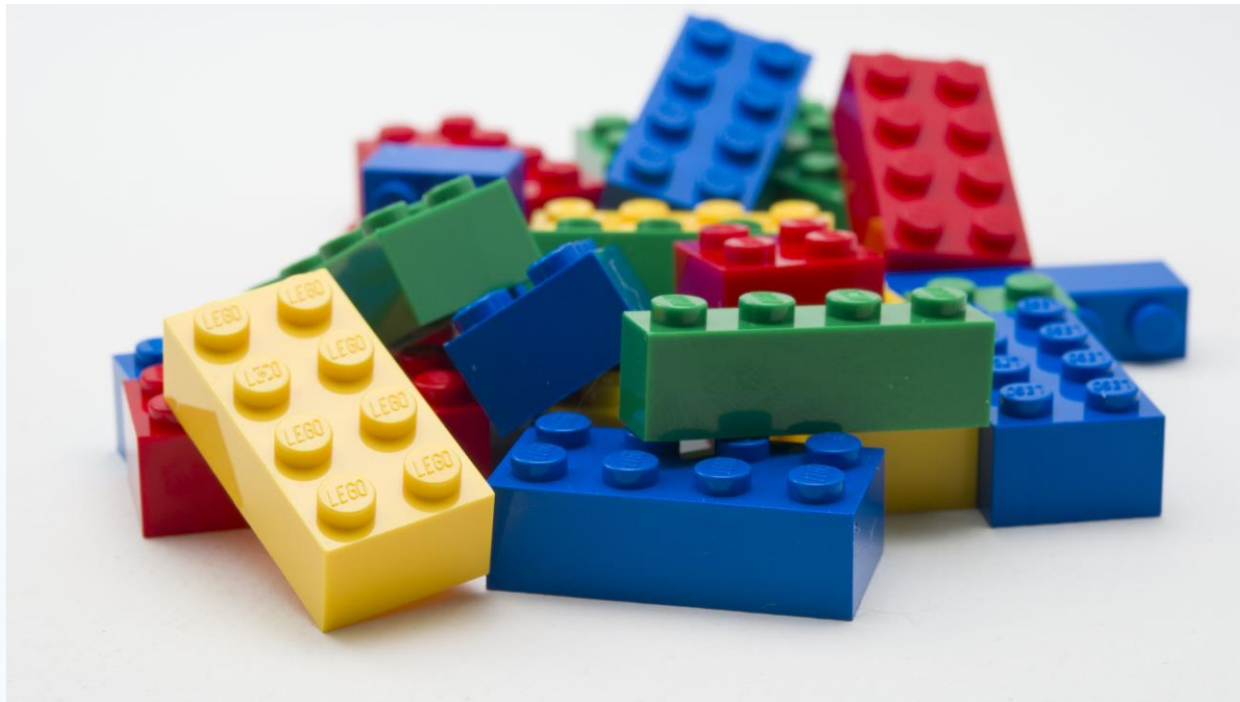
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Building a search strategy

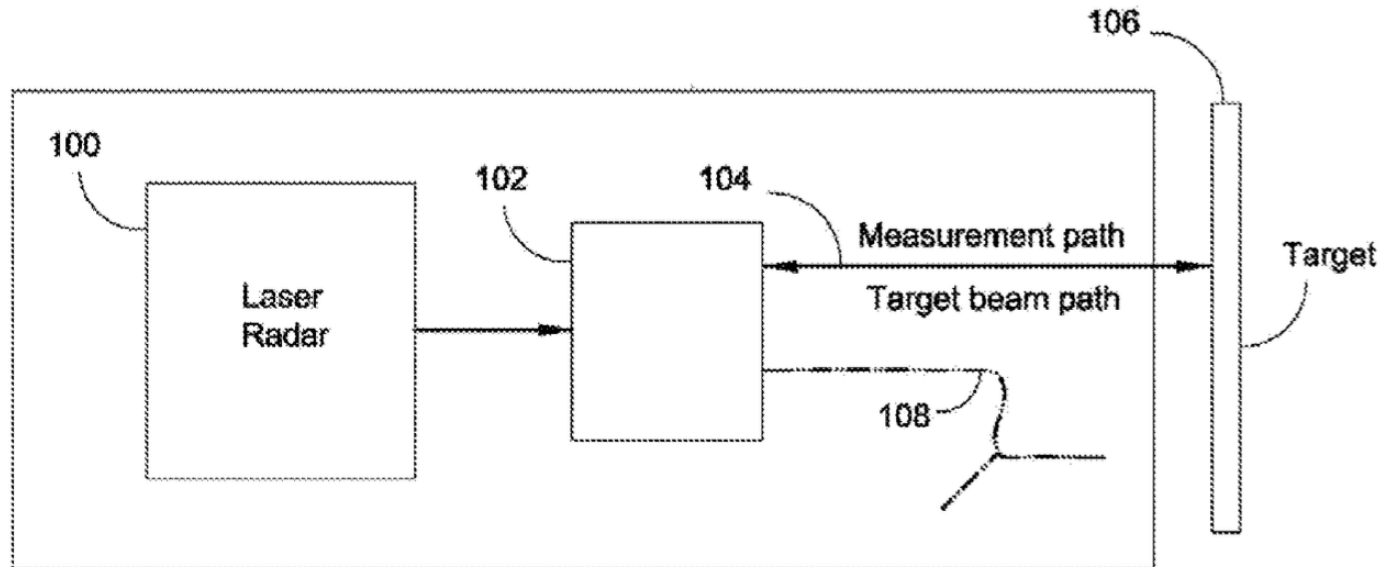
- Start broad, then narrow down with refining terms
- Seek key terms in abstract, claims and specifications
- Gather synonyms for these key terms



Example:

“Optical assembly for laser radar”

(US Application 20130194563)



Breaking it down...

- What is the invention?

Optical assembly for laser radar system

- What does it do?

Compact optical assembly that moves in tandem with a laser radar system. Eliminates need for large scanning mirror.

- How does it do it?

Assembly comprises a light source, a lens, a scanning reflector and a fixed reflector. Scanning reflector moves relative to light source, adjusting focus of the beam along the line of sight.

Where to find information in a patent application

- Abstract
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings
- Detailed description of the invention
- Claims

Key Concepts

(57)

ABSTRACT

A compact optical assembly for a **laser radar system** is provided, that is configured to move as a unit with a laser radar system as the laser radar system is pointed at a target and eliminates the need for a large scanning (pointing) mirror that is moveable relative to other parts of the laser radar. The **optical assembly** comprises a light source, a lens, a scanning reflector and a fixed reflector that are oriented relative to each other such that: (i) a beam from the light source is reflected by the **scanning reflector** to the **fixed reflector**; (ii) reflected light from the fixed reflector is reflected again by the scanning reflector and directed along A line of sight through the lens; and (iii) the scanning reflector is moveable relative to the source, the lens and the fixed reflector, to adjust the focus of the beam along the line of sight.

Create a list of synonyms

“Optical assembly for laser radar”

Optical
Optics
Ocular
Lens

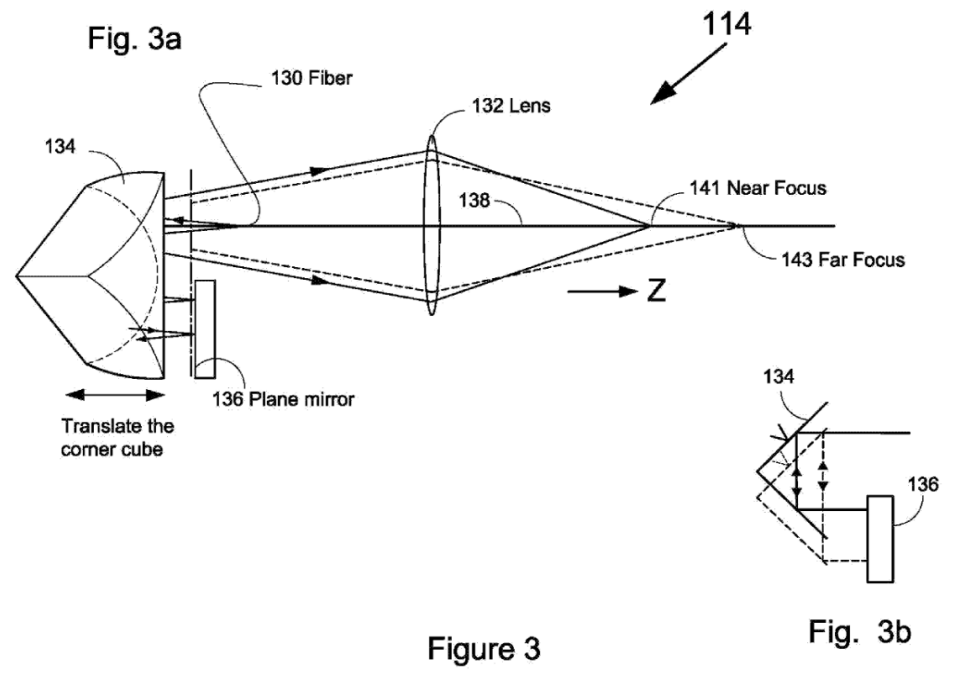
Laser
Laser beam
Ray

Scanning
Check
Inspect
Examine
Screen

Reflector
Mirror
Glass

Search strategy

- **EXAMPLE:** Optical assembly for laser radar
- **MAIN CONCEPT:** Radar
- **SECONDARY CONCEPT:** optical assembly, scanner, laser



Multiple approaches to start a search

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Search results

Displaying results 1-25 of 44 for **(("optical assembly") AND radar)** x

Show All Results | Per Page 25 | Sort By Relevance

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Refine results by

Search within results

Content Type

- Journals & Magazines (23)
- Conference Publications (21)

Year

Single Year | Range

1953 | 2016

From 1953 To 2016

- From simulation to experimental validation of the development and operation of complex technical systems**
Michael Schluse; Juergen Rossmann
2016 IEEE International Symposium on Systems Engineering (ISSE)
Year: 2016
Pages: 1 - 6, DOI: 10.1109/SysEng.2016.7753162
IEEE Conference Publications
Abstract (html) PDF (2716 Kb) CC
- Automatic detection of vehicles at road intersections using a compact 3D Velodyne sensor mounted on traffic signals**
Ahmad K. Aijazi; Paul Checchin; Laurent Malaterre; Laurent Trassoudaine
2016 IEEE Intelligent Vehicles Symposium (IV)
Year: 2016
Pages: 662 - 667, DOI: 10.1109/IVS.2016.7535458
IEEE Conference Publications
Abstract (html) PDF (3595 Kb) CC
- Launch of the international Disaster Monitoring Constellation; the**

Search result

Browse Journals & Magazines > Journal of Display Technology > Volume: 6 Issue: 10 

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Laser-Based Head-Trackled 3D Display Research



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Author(s)

[v Rajwinder Singh Brar](#) ; [v Phil Surman](#) ; [v Ian Sexton](#) ; [v Richard Bates](#) ; [v Wing Kai Lee](#) ; [v Klaus Hopf](#) ; [v Frank Neumann](#) ; [v Sally E. ...](#) [View All Authors](#)



Abstract

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Abstract:

The construction and operation of two laser-based glasses-free 3D (autostereoscopic) displays that have been carried out within the European Union-funded projects MUTED and HELIUM3D is described in this paper. Both use a multi-user head tracker to direct regions viewer's referred to as exit pupils to viewer's eyes. MUTED employs a direct-view LCD whose backlight comprises novel steering optics and in HELIUM3D image information is supplied by a horizontally-scanned fast light valve whose output is controlled by a spatial light modulator (SLM). The principle of operation, construction and results obtained are described.

Published in: [Journal of Display Technology](#) (Volume: 6, Issue: 10, Oct. 2010)

Page(s): 531 - 543

INSPEC Accession Number: 11523349

Date of Publication: 10 May 2010 

DOI: [10.1109/JDT.2010.2044367](#)

Image searching

- Detect similarities between search results and the invention or patent application at hand
- Researchers at the US Patent and Trademark Office use an internal database called EAST. One can tab (scroll) through images related to patents in quickly

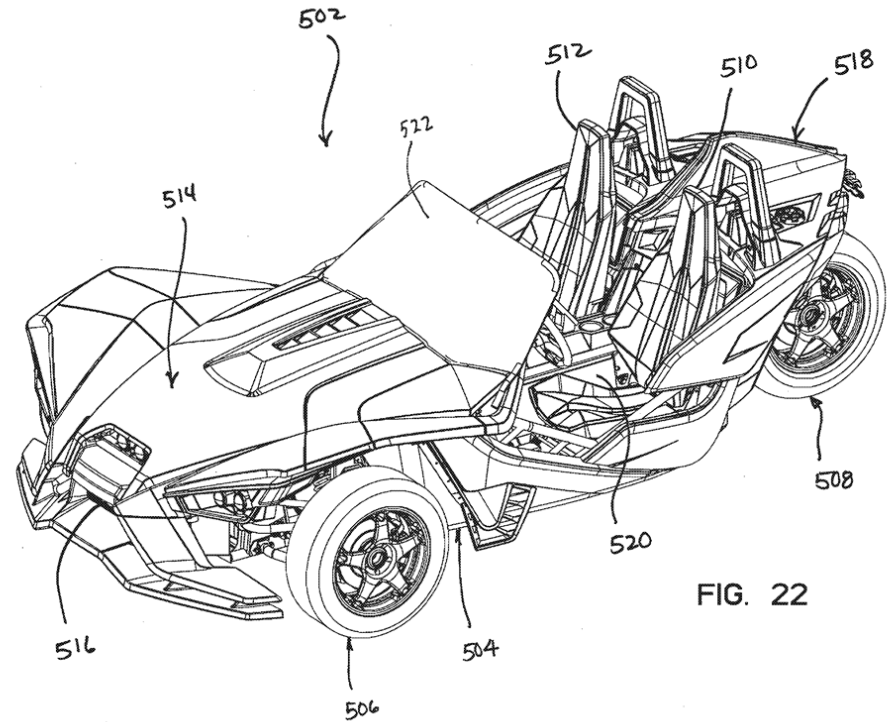


FIG. 22

Images Tab

Quickly determine similarities between prior art and patent application at hand

Abstract



Figures

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Citations

Keywords

Metrics

Media

Fig. 1.



3D display types. This figure shows all generic 3D types that do not require the wearing of special equipment on the

Fig. 2.



Fig. 3.

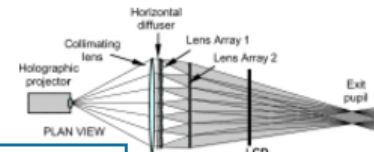
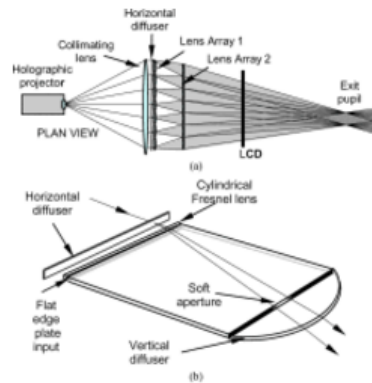


Fig. 3.



» View in Context

» View Full Size Image



Equivalent and element construction. (a) Equivalent element.



Keywords

Discover synonyms to broaden your search strategy



Abstract

Authors

Figures

References

Citations

Keywords

Metrics

Media

IEEE Keywords

Three dimensional displays,
Holography,
Liquid crystal displays,
Head,
Holographic optical components,
Eyes,
Optical modulation,
Three dimensional TV,
Optical control,
Lighting control

INSPEC: Controlled Indexing

three-dimensional displays,
laser beam applications,
liquid crystal displays,
spatial light modulators,
stereo image processing,
target tracking

INSPEC: Non-Controlled Indexing

LCD,
laser-based head tracking,
3D display research,
laser-based glasses-free 3D displays,
autostereoscopic displays,
European Union-funded projects,
MUTED,
multiuser head tracker,
HELIUM3D image information,
horizontally-scanned fast light valve ...

Author Keywords

three-dimensional (3D) display,
Autostereoscopic,
head-tracking,
liquid crystal on silicon (LCOS),
RGB laser

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Standards Dictionary

Uncover even more synonyms for your search strategy

Displaying results 1-25 of 112,881 for **radar** ✕

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Search within results



Content Type ^



- Conference Publications (81,752)
- Journals & Magazines (30,466)
- Early Access Articles (349)
- Books & eBooks (249)
- Standards (44)
- Courses (21)



Year ^

Single Year Range

1942 2017

Frequency diverse array and MIMO hybrid radar transmitter design via Cramér–Rao lower bound minimisation 🔒
Kuandong Gao; Wen-Qin Wang; Jingye Cai
IET Radar, Sonar & Navigation
Year: 2016, Volume: 10, Issue: 9
Pages: 1660 - 1670, DOI: 10.1049/iet-rsn.2015.0644
IET Journals & Magazines
[▶ Abstract](#)  (9914 Kb) 

Experimental analysis of multistatic multiband radar signatures of wind turbines 🔒
Francesco Fioranelli; Matthew Ritchie; Alessio Balleri; Hugh Griffiths
IET Radar, Sonar & Navigation
Year: 2016, Volume: 10, Issue: 8
Pages: 1400 - 1410, DOI: 10.1049/iet-rsn.2015.0474
IET Journals & Magazines
[▶ Abstract](#)  (11428 Kb) 

Radar classification of indoor targets using support vector machines 🔒
Travis D. Bufler; Ram M. Narayanan
IET Radar, Sonar & Navigation
Year: 2016, Volume: 10, Issue: 8
Pages: 1400 - 1410, DOI: 10.1049/iet-rsn.2015.0474
IET Journals & Magazines
[▶ Abstract](#)  (11428 Kb) 

Standards Dictionary Terms ?

- far-field region
- antenna
- antenna pattern
- electromagnetic radiation
- ground plane
- radiation intensity
- near-field region
- dielectric constant
- power gain
- antenna array
- dipole
- electric dipole
- magnetic dipole

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N.A. Dodgson

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3-D Video Representation Using Depth Maps
Karsten Muller; Philipp Merkle; Thomas Wiegand

9
Authc
A Survey of 3DTV Displays: Techniques and Technologies
Philip Benzie; John Watson; Phil Surman; Ismo Rakkolainen; Klaus Hopf; Hakan Urey; Ventseslav Sainov; Christoph von Kopylow

At
Three-Dimensional Displays: A Review and Applications Analysis
Nicolas S. Holliman; Neil A. Dodgson; Gregg E. Favalora; Lachlan Pockett

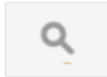
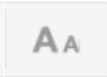
Ab:
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3-D Displays and Signal Processing
Janusz Konrad; Michael Halle

Pa:
Dat
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Fahri Yaras; Hoonjong Kang; Levent Onural

Pa:
Dat
Subjective evaluation of stereoscopic images: effects of camera parameters and display duration
W.A. IJsselsteijn; H. de Ridder; J. Vliegen

High-Density Directional Display for Generating Natural Three-Dimensional Images
Y. Takaki

Cancellation of image crosstalk in time-sequential displays of stereoscopic video

Full Text

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References & Citations

Citation Map

This view provides a high-level visual representation of references and citing documents for this article. To view the full listing, select "View All References" or "View All Citations".

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 **Citation**

Viewing: **Laser-Based Head-Trackled 3D Display Research**

1. P. Benzie, J. Watson, R. Rakkolainen, K. Hori, S. Sainov, C. von Kopylov, "3D TV displays: Technologies and techniques", *IEEE Syst Video Technol.*, pp. 1647-1658, Nov 2010.

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References in this Article

- 1 A survey of 3D TV displays: Techniques and technologies
- 2 Interactive three-dimensional displays; Seeing the future in depth
- 3 Volumetric Three-Dimensional Display Systems
- 4 Volumetric three-dimensional display system with rasterization hardware
- 5 Hologram-like video images by 45-view stereoscopic display

Citations to this Article

- 1 Multi-User Autostereoscopic 2D/3D Switchable Flat-Panel Display
- 2 Three-dimensional imaging methods based on multiview images
- 3 Low Crosstalk Multi-View Tracking 3-D Display of Synchro-Signal LED Scanning Backlight System
- 4 Multi-user eye tracking suitable for 3D display applications
- 1 Natural three-dimensional display with smooth motion parallax using active partially pixelated masks

This Article



Patent Citations

Patent citations from USPTO, EPO & WIPO



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By Papers

By Patents

1. Bohn, David D.; Fleck, Rod G.

- » Patent No. 9297996
- » Full Text PDF
- » View at Patent Office

2. Bohn, David D.; Fleck, Rod G.;
Robbins, Steven John

- » Patent No. 9298012
- » Full Text PDF
- » View at Patent Office

3. Bohn, David D.

- » Patent No. 9223138
- » Full Text PDF
- » View at Patent Office



View All

Author/inventor search

In addition to the Author Search in IEEE *Xplore*, one can use the Advanced Search to perform an inventor/author search:

- Search by inventor last name
- Search the inventor's topic broadly: e.g. "radar"
- Combine inventor name with topic area, using additional key concepts for further refinement
- Authors of known prior art can expand background knowledge of a topic and create new search leads

Author Search

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Setting a Search Alert

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- Standards (3)

Year

Single Year | Range

1954 2011

From To

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- CDP Servo System Control using Fuzzy Logic Control**
Yong Choi; Chang-Hun Kim
Consumer Electronics, IEEE Transactions on
Year: 2007, Volume: 53, Issue: 4
Pages: 1314 - 1321, DOI: 10.1109/TCE.2007.4429218
IEEE Journals & Magazines
[▶ Abstract](#) [\(\(html\)\)](#) (1288 Kb)
- Reconstruction of backscatter and extinction coefficients in lidar: a stochastic filtering approach**
Bioucas Dias, J.M.; Leitao, J.M.N.; Fonseca, E.S.R.
Geoscience and Remote Sensing, IEEE Transactions on
Year: 2004, Volume: 42, Issue: 2
Pages: 443 - 456, DOI: 10.1109/TGRS.2003.817216
Cited by: [Papers \(2\)](#)
IEEE Journals & Magazines
[▶ Abstract](#) [\(\(html\)\)](#) (848 Kb)
- Design and performance of an optically controlled phased array antenna**
Etem, Y.; Lewis, M.F.
Microwave Photonics, 1996. MWP '96. Technical Digest., 1996 International Topical Meeting on

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paulshenriques@gmail.com

RSS feed from Search Alerts

The screenshot shows the IEEE search interface. At the top, there is a navigation bar with 'BROWSE', 'MY SETTINGS', 'GET HELP', and 'WHAT CAN I ACCESS?'. Below this is a search bar with 'Enter Search Term' and a 'Search' button. A green arrow points to the 'Basic Search' button. A dropdown menu is open under 'MY SETTINGS', showing options like 'Content Alerts', 'My Projects', 'Search Alerts', 'Preferences', 'Purchase History', 'Search History', and 'What can I access?'. The 'Search Alerts' option is highlighted. Below the search bar, there is a section for 'Search Alerts' with a breadcrumb 'My Settings > Search Alerts'. A yellow banner indicates that alerts will be sent to 'paulshenriques' in a specific format. Below this is a table of search alerts with columns for the alert name, search criteria, and actions (RSS, Rename, Delete, Disable Alert). The 'RSS' column is highlighted with a red box.

Alert ID	Alert Name	Search Criteria	RSS	Rename	Delete	Disable Alert
1	optical assembly	You Searched For "(("optical assembly") AND radar)"	RSS	Rename	Delete	Disable Alert
2	aircraft control	You Searched For "(aircraft AND control)"	RSS	Rename	Delete	Disable Alert
3	Microwave	You Searched For "(microwave AND antenna)"	RSS	Rename	Delete	Disable Alert
4	hybrid diesel	You Searched For "(diesel AND hybrid)"	RSS	Rename	Delete	Disable Alert
5	big data	You Searched For "(big data AND antenna)"	RSS	Rename	Delete	Disable Alert
6	antenna	You Searched For "(antenna AND propagation)"	RSS	Rename	Delete	Disable Alert
7	signal masking	You Searched For "(signal masking AND antenna)"	RSS	Rename	Delete	Disable Alert

Export search results: Choose RIS format for Mendeley

The screenshot shows the IEEE Xplore search interface. At the top, a search bar contains the text "signal masking" and a "Search" button. Below the search bar are tabs for "Basic Search", "Author Search", "Publication Search", "Advanced Search", and "Other Search Options". The main content area displays "Displaying results 1-25 of 4,763 for signal masking". Below this, there are controls for "Show All Results", "Per Page 25", and "Sort By Relevance". A green arrow points from the search bar area down to the "Download Citations" link. Another green arrow points from the "Download Citations" link to an "Output Format" dialog box. The dialog box has the following content:

If no search results are selected, the top 2000 results will be downloaded (CSV only).

Output Format

- Plain Text
- BibTeX
- RefWorks
- RIS (EndNote, Reference Manager, ProCite)
- CSV

Include

- Citation Only
- Citation & Abstract

Buttons: Cancel, Download

The background search results show a list of items. The first item is "Signal masking" by Quinn, J.A.; Williams, C.K.I., published in "Acoustics, Speech and Signal Processing, 2008. ICASSP 2008. IEEE International Conference on" in 2008. Below the item title are links for "Abstract", "html", "PDF (165 Kb)", and a Creative Commons license icon. On the left side, there is a "Refine results by" section with filters for "Content Type" (Conference Publications, Journals & Magazines, Standards, Early Access Articles, Books & eBooks) and "Year" (Single Year, Range). On the right side, there is a "Standards Dictionary Terms" list with a "Browse" button.

Resources & Help Section



The screenshot shows the top navigation bar of the IEEE Xplore website. The navigation bar is dark blue with several menu items: 'BROWSE' (highlighted in orange), 'MY SETTINGS', 'GET HELP', 'WHAT CAN I ACCESS?', and 'SUBSCRIBE'. Below the navigation bar is a search area with a search bar containing the text 'Enter Search Term' and a search button labeled 'Search'. To the right of the search bar, it says '06 items'. Below the search bar, there are tabs for 'Basic Search', 'Author Search', and 'Publication Search'. A green arrow points to the 'Resources and Help' option in the 'GET HELP' dropdown menu. Other options in the dropdown include 'About IEEE Xplore', 'Feedback', 'Technical Support', and 'Terms of Use'. To the right of the search bar, there are links for 'Advanced Search' and 'Other Search Options'.



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Resources and Help

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Administrators & Librarians



- » Training for your Organization
- » Promoting your Subscription
- » Request an Institutional Administration Account
- » Usage Reports

Researchers

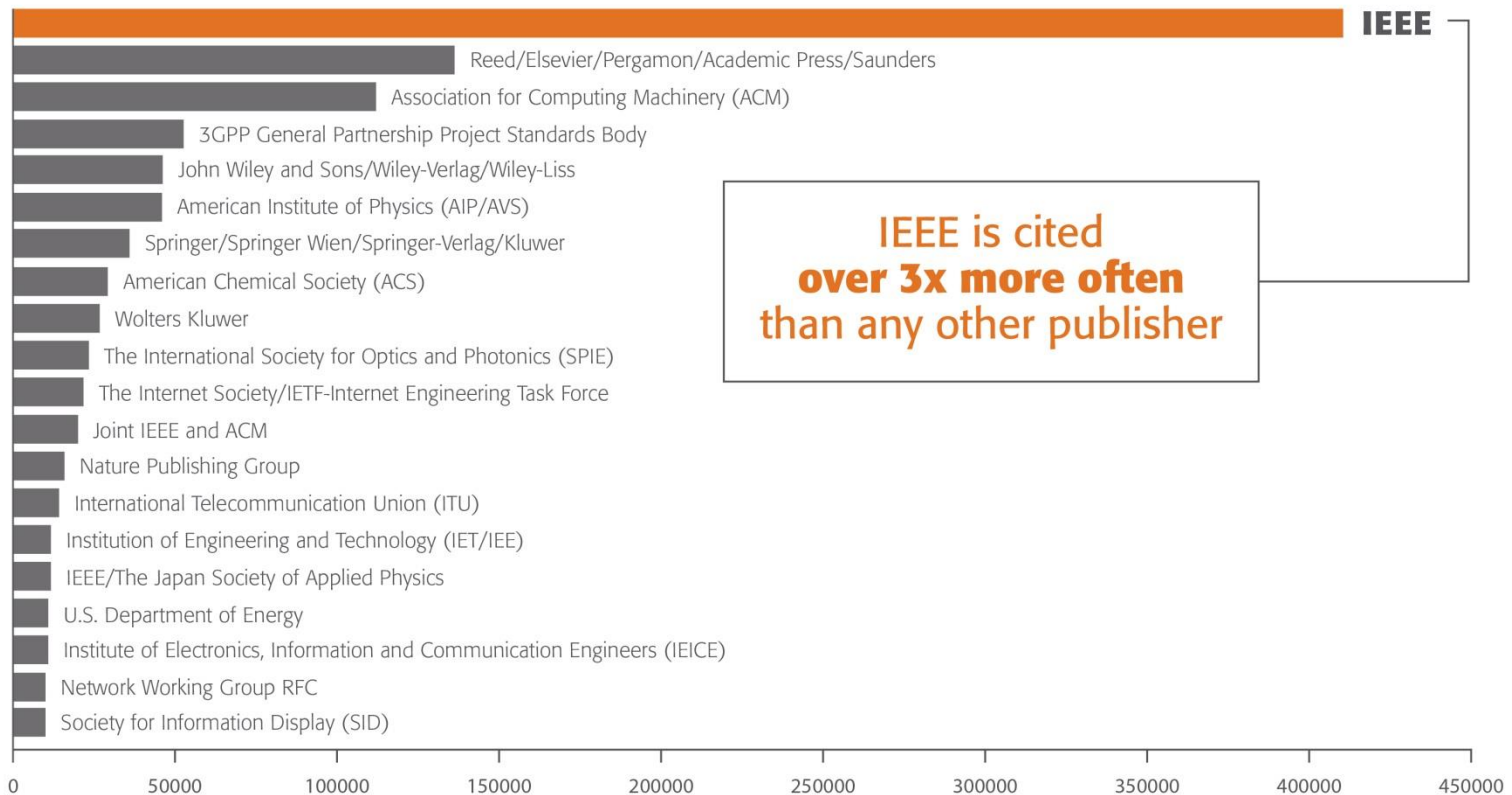


- » Content Alerts
- » Command Search
- » IEEE Collabratec

Prior Art Searching with InnovationQ Plus

IEEE Leads US Patent Citations

Top 20 Publishers Referenced Most Frequently by Top 40 Patenting Organizations



Source: 1790 Analytics LLC 2016. Based on number of references to papers/standards/conferences from 1997-2015

USPTO Story

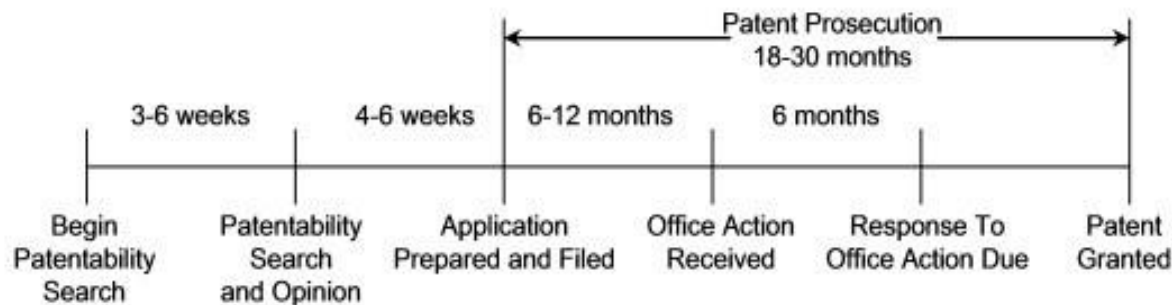
- Current backlog of over 546,000 patent applications at the US Patent and Trademark Office
- Annual increase in filings of 4%
- Over 35,000 Requests for Continued Examination (RCE)
- 8,179 patent examiners on staff



- InnovationQ Plus is a powerful new innovation discovery and analytics platform that **combines IEEE literature with IP.com's global patent and non-patent literature.**
- The system was developed for IP professionals at **corporations, IP law firms, patent offices and academic tech transfer offices.**

Model Patent Timeline

Application Preparation & Prosecution Timeline



The Content of InnovationQ Plus

IEEE full text publications **+** **IP.com global patent database** **=** **Unique value**

InnovationQ Plus indexes IEEE full text publications alongside one of the largest global patent literature databases in the industry. Content includes:

- Over 4.1 million documents from IEEE journals, conferences & standards
- Global patent literature database of over 92+ million patents & applications
- IP.com's proprietary Prior Art Database
- Invention disclosures of licensable technology from universities
- Other non-patent literature including PubMed Central & IBM Redbooks

Innovative Features

■ Patented Semantic search platform

- Patented IQ+ search engine allows users to find valuable content that is buried in complex patent and technical documents, allowing IP professionals to more effectively analyze prior art and increase productivity.

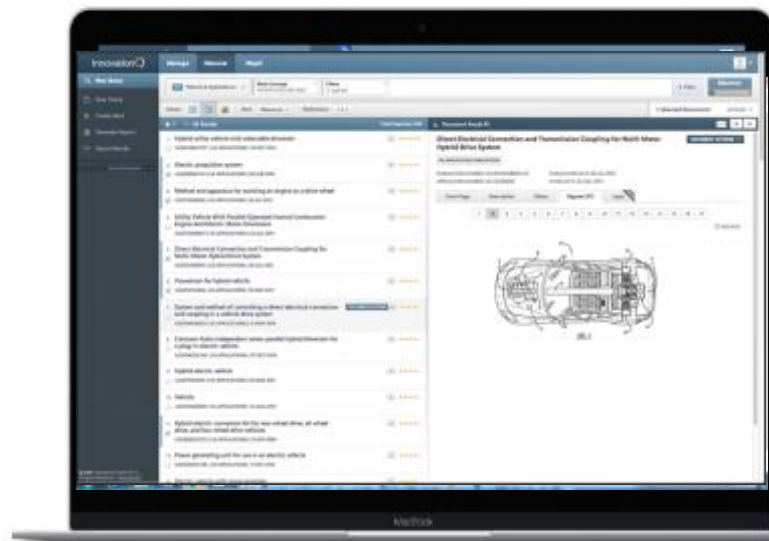
■ Visualizations for Competitive Intelligence and Landscaping

■ Visualize concepts with the Map tool

- A visual representation of critical documents based on concepts and meaning extracted from content. Easily identify whitespace and quickly highlight documents by specified organizations.

■ More features to streamline your workflow

- Filters, collaboration tools, save results, export



Prior Art Searching: The Old Way

- Understand the patent application
- Identify key concepts of the invention
- Identify databases to search
- Create sets of synonyms
- Develop a search strategy
- Perform an author/inventor
- Save your search history



What if You Could Turn This...

Query:

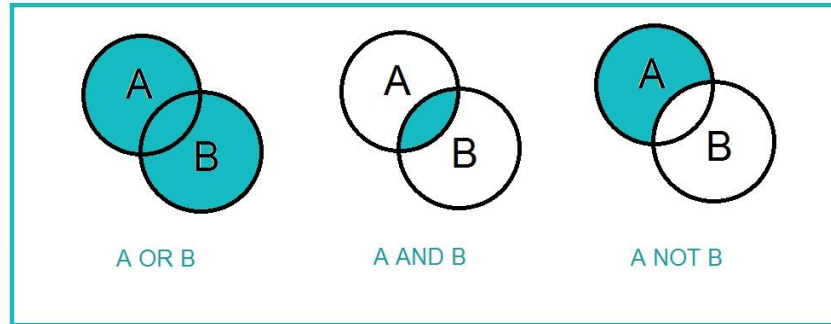
ALL=(surgical OR curve OR segment) AND
suture AND
(((intervertebral OR cutting OR member OR
arcuate OR guide)
NEAR5 (bone OR seal)) SAME (tissure OR
jaw*)) AND (Instrument OR
cannula*1) AND DP>=(19930101) AND
IC=(H01L 39/02 OR H01L
39/12 OR H01F 38/14)

Into This?

Query:

A surgical cannula with curved segments used to guide a medical instrument through a curved or bowed path

From Boolean to Semantic



Discover Unreturned Results Through InnovationQ Plus

Boolean:

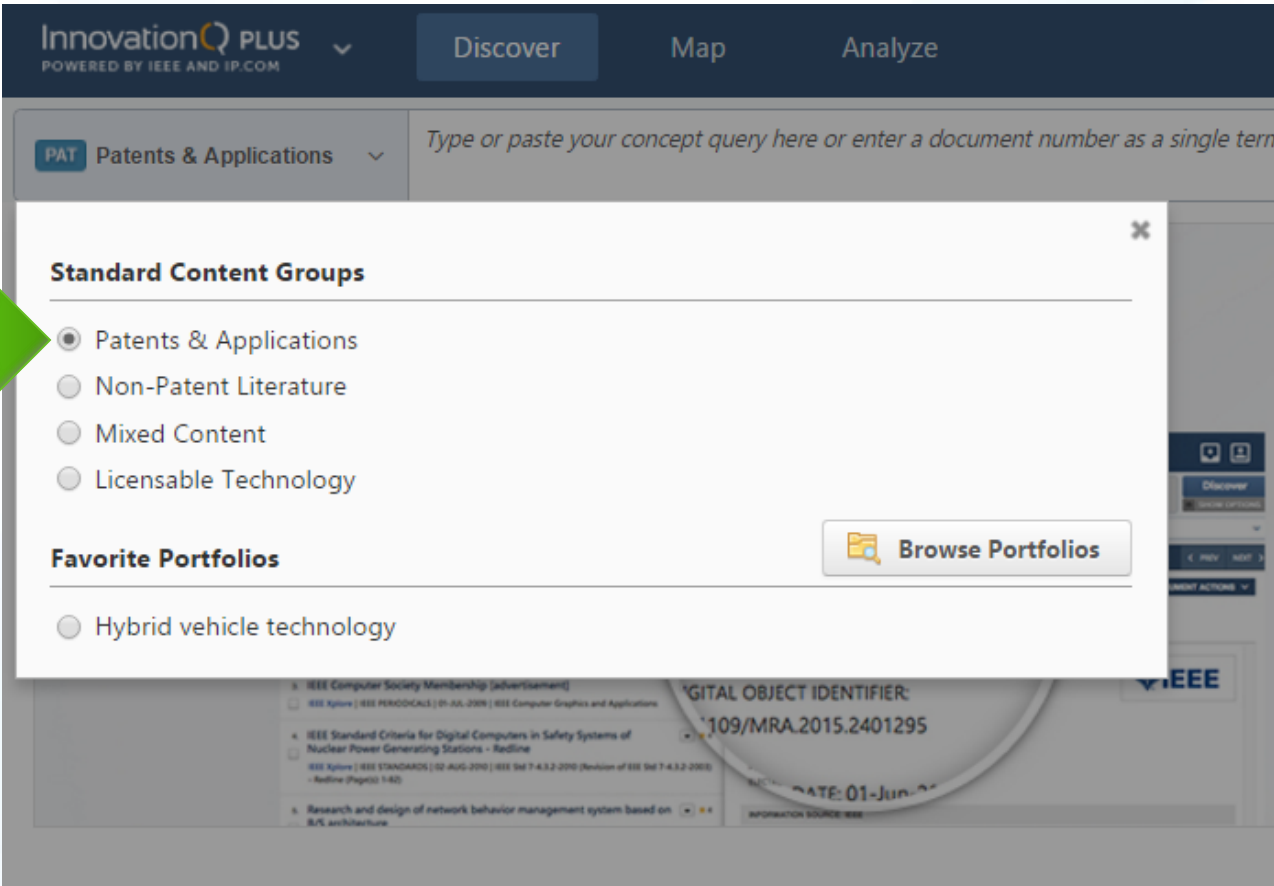
Autonomous vehicle

Concept Search:

Autonomous vehicle	Navigation	Accelerator
Car	Network	Van
Automobile	Locomotive	Pilot
Driver	Fuel	Self driving
Truck	Transport	Wheels
Robot	Route	Tram
GPS	Passenger	Train
Transport	Brake	Bus
Satellite	Engine	Taxi

Discover: Content Groups

Search Patents & Applications, Non-Patent Literature, Mixed Content or Licensable Technology



The screenshot shows the 'Discover' section of the Innovation Plus platform. A dropdown menu is open, displaying 'Standard Content Groups' and 'Favorite Portfolios'. A green arrow points to the 'Patents & Applications' option in the 'Standard Content Groups' list.

Innovation PLUS
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Discover Map Analyze

PAT Patents & Applications

Type or paste your concept query here or enter a document number as a single term

Standard Content Groups

- Patents & Applications
- Non-Patent Literature
- Mixed Content
- Licensable Technology

Favorite Portfolios

- Hybrid vehicle technology

Browse Portfolios

Discover: Results Split View

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Discover Map Analyze

NPL Non-Patent Literature

Main Concept Text
A surgical cannula with curved se... 1 modifier

+ Filter Discover SHOW OPTIONS

0 Selected Documents

1 - 50 645 results

Document Result #1

A robotic device for minimally invasive breast interventions with real-time MRI guidance

Overview Citations Text Notes

IEEE CONFERENCE PAPER IEEE XPLORE

ISBN: 0-7695-1907-5 PUBLICATION DATE: 01-Jan-2003
DIGITAL OBJECT IDENTIFIER: 10.1109/BIBE.2003.1188946

INFORMATION SOURCE: IEEE

Published in: Third IEEE Symposium on Bioinformatics and Bioengineering, 2003. Proceedings. (Page(s): 190-197)

Authors: B.T. Larson • N.V. Tsekos • A.G. Erdman [+details]

Affiliations: Dept. of Mech. Eng., Univ. of Minnesota, Minneapolis, MN, USA

Abstract :

- 1. A robotic device for minimally invasive breast interventions with real-time MRI guidance
IEEE Xplore | IEEE CONFERENCES | 01-JAN-2003 | Third IEEE Symposium on Bioinformatics and Bioengineering, 2003. Proceedings. (Page(s): 190-197)
- 2. Ultrasound Guided Robotic System for Transperineal Biopsy of the Prostate
IEEE Xplore | IEEE CONFERENCES | 01-JAN-2005 | Proceedings of the 2005 IEEE International Conference on Robotics and Automation (Page(s): 1315-1320)
- 3. Robotic system for hybrid diagnosis of prostate cancer: Design and experimentation
IEEE Xplore | IEEE CONFERENCES | 01-MAY-2011 | 2011 IEEE International Conference on Robotics and Automation (Page(s): 6276-6281)
- 4. Complex optical method of cancer detection and visualization
IEEE Xplore | IEEE CONFERENCES | 01-MAY-2015 | 2015 International Conference on BioPhotonics (BioPhotonics) (Page(s): 1-4)
- 5. Optical coherence tomography imaging for cancer diagnosis and therapy guidance

Add Concept Modifiers

Add terms and phrases to your concept and refine result set with "More Like This" and "Less Like This"

The screenshot displays the Innovation PLUS interface, which is powered by IEEE and IP.COM. The navigation bar includes 'Discover', 'Map', and 'Analyze' buttons. The main content area shows a list of search results, each with a checkbox, a title, a description, and current assignees. A dropdown menu titled 'Modify Query' is open over the third result, showing options: 'Replace Main Concept', 'More Like This', 'Less Like This', 'Document', 'Preview', 'Add to Portfolio', and 'Select'. A 'DOCUMENT ACTIONS' button is also visible below the dropdown. The third result is highlighted with a red arrow pointing to the 'Adaptive multi-modal integrated biometric identification detection and surveillance systems' title. Another red arrow points to the 'Modify Query' dropdown menu.

Innovation PLUS
POWERED BY IEEE AND IP.COM

Discover Map Analyze

1 - 50

1. **Apparatus and method for iris image analysis**

An apparatus including circuitry configured to receive a plurality of images and extract at least one iris image from each of the plurality of images; receive a claimed identity iris image corresponding to an identity to be authenticated, normalize the iris images and...

CURRENT ASSIGNEES: KING FAHD UNIV PETROL & MINERALS
US9189686 | US PATENTS | 17-NOV-2015

2. **System and method for sensor adaptation in iris biometrics**

The sensor adaptation technique applicable to non-contact biometric authentication, specifically in iris recognition, is designed to handle the situation that occurs when enrollment iris samples and test iris samples are acquired with different sensors. The present system and method...

CURRENT ASSIGNEES: UNIV MARYLAND BALTIMORE
US9530052 | US PATENTS | 27-DEC-2016

3. **Adaptive multi-modal integrated biometric identification detection and surveillance systems**

A surveillance system is provided that includes at least one sensor disposed in a security area of a surveillance region to sense an occurrence of a potential security breach event; a plurality of cameras is disposed in the surveillance region; at least one camera of the plurality has a view of the...

CURRENT ASSIGNEES: PROXIMA CORP
US7956890 | US PATENTS | 07-JUN-2011

US6471700 | US PATENTS | 29-OCT-2002

5. **Guidable cutting instrument**

This disclosure is directed to minimally-invasive access devices that are used through small access portals to minimize tissue damage. The access device includes a guide frame...

DOCUMENT ACTIONS

Modify Query

Replace Main Concept

More Like This

Less Like This

Document

Preview

Add to Portfolio

Select

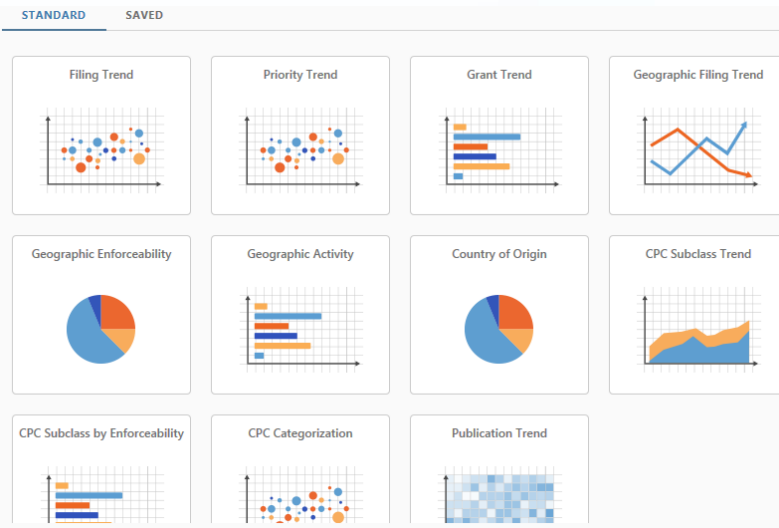
Build a Patent Portfolio

Technical Intelligence:

1. Knowledge of the “art” (subject matter)
2. Prior Art searching
3. Technology trends
4. Technology applications (old, current and future)

Competitive Intelligence:

1. Who (organizations) are in this tech space? (assignee/applicant)
2. Who (people) are the professionals? (author/inventor)
3. Who are they collaborating with?
4. What are they doing?
5. How are they doing it? (patent claims)
6. How can I track these alliances or competitors? (search alerts)
7. Where are they interested in doing business?



InnovationQ PLUS

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The screenshot shows the homepage of InnovationQ PLUS. At the top, there is a navigation bar with links to IEEE.org, IEEE Xplore Digital Library, IEEE Standards, IEEE Spectrum, and More Sites. The IEEE logo is in the top right corner. Below the navigation bar, the InnovationQ PLUS logo and tagline "POWERED BY IEEE AND IP.COM" are on the left. The main navigation menu includes "Who We Are", "Our Solution", "Why InnovationQ Plus?", "Resources", "Login", and a yellow "REQUEST A DEMO" button. The main content area features a large image of a person in a suit pointing at a tablet, with a network diagram overlay. The text "MEET THE FUTURE OF PATENT INTELLIGENCE AND DISCOVERY" is centered over the image.

**For more information:
innovationqplus.ieee.org**

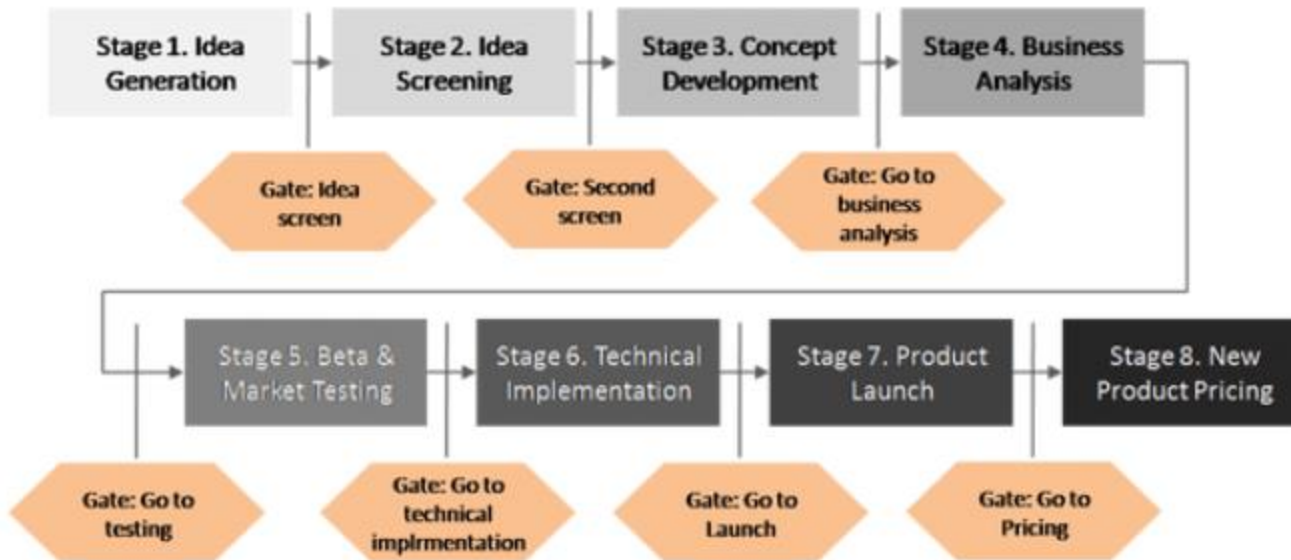
Other sources for patent research

- USPTO Patent Full-Text Database:
<http://www.uspto.gov/patft/index.html>
- Espacenet (European Patents):
<http://www.espacenet.com/access/index.en.htm>
- Japan Platform for Patent Information: <https://www.j-platpat.inpit.go.jp>
- Google Patents: <https://patents.google.com>
- Internet Wayback Machine (useful for dating prior art):
<https://archive.org/web>

When to Start Prior Art Searching?

The earlier, the better!

- It is important to conduct prior art searching in the early stage, instead of the final stage of idea development!



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Source: <https://www.cleverism.com/product-development-overview-idea-product/>

<http://www.ieee.org/go/clientservices>
<http://www.ieee.org/training>

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li.q@ieee.org