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Presented by: Eszter Lukács IEEE Client Services Manager <u>e.lukacs@ieee.org</u>





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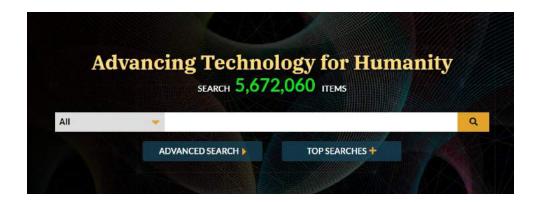
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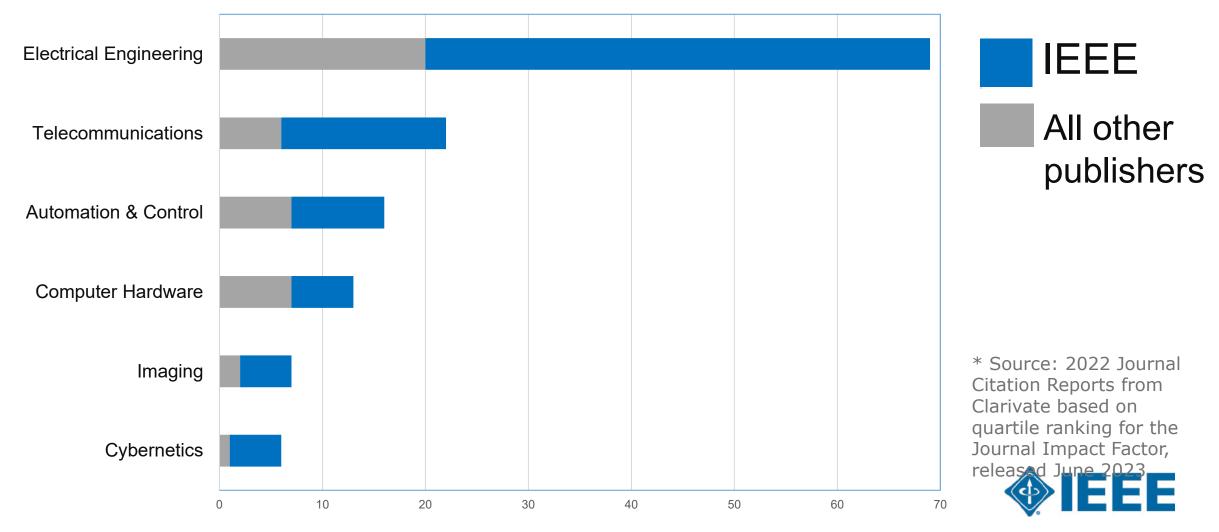
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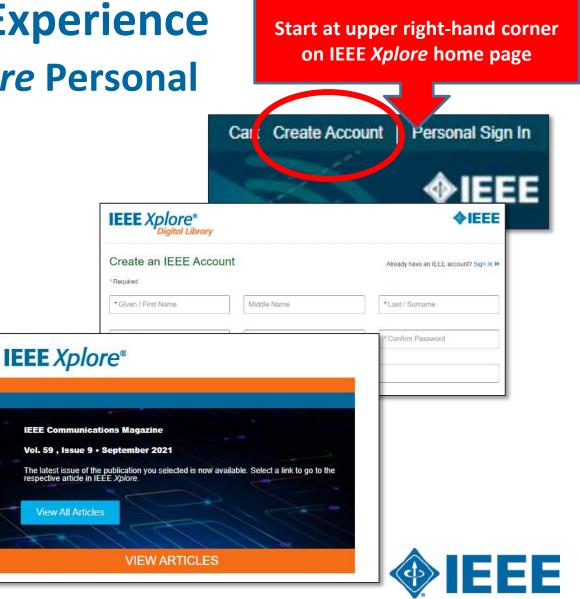


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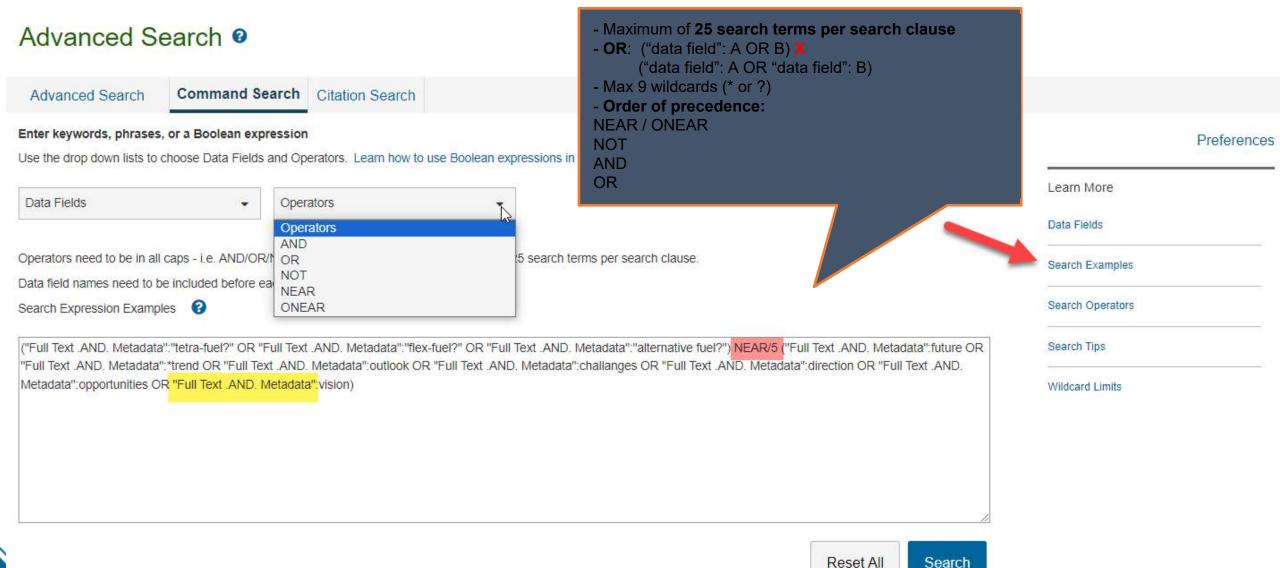
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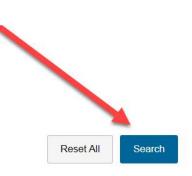
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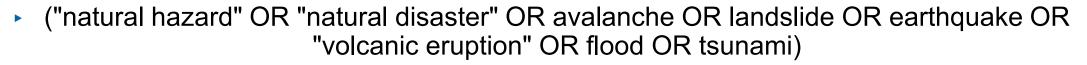


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☑ 76	("All Metadata":"lane keeping" OR "All Metadata":"driver assistance" OR "All Metadata":"driver steering") AND ("Author Affiliations":daimler OR "Author Affiliations":volkswagen)
75	(("Full Text & Metadata":cooperative OR "Full Text & Metadata":connected OR "Full Text & Metadata":automated) NEAR/5 ("Full Text & Metadata": Metadata":car OR "Full Text & Metadata":automotive OR "Full Text & Metadata":vehicle OR "Full Text & Metadata":mobility))



# **Identify most important technical terms**

#### Publication Topics

#### Enter Topics

- Alternative Fuel (9)
- Electric Vehicles (8)
- Greenhouse Gas (7)
- Alternative Splicing (4)
- Natural Gas (4)
- State Of Charge (4)
- Alternative Fuel Vehicles (3)
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- Mixed Integer Linear Programming (3)
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### DeepIDA: Predicting Isoform-Disease Associations by Data Fusion and Deep Neural Networks

### Guoxian Yu; Yeqian Yang; Yangyang Yan; Maozu Guo; Xiangliang Zhang; Jun Wang IEEE/ACM Transactions on Computational Biology and Bioinformatics Year: 2022 | Volume: 19, Issue: 4 | Journal Article | Publisher: IEEE Cited by: Papers (8)



### Coordinated Planning of Electric Power and Natural Gas Distribution Systems With Refueling Stations for Alternative Fuel Vehicles in Transportation System

Chengcheng Shao; Ke Li; Zechun Hu; Mohammad Shahidehpour

IEEE Transactions on Smart Grid

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Year: 2022 | Volume: 13, Issue: 5 | Journal Article | Publisher: IEEE
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### DeepIII: Predicting Isoform-Isoform Interactions by Deep Neural Networks and Data Fusion

Jun Wang; Long Zhang; An Zeng; Dawen Xia; Jiantao Yu; Guoxian Yu

< Previous | Back to Results | Next > Coordinated Planning of Electric Power and Natural Gas Distribution Systems With Refueling Stations for Alternative Fuel Vehicles in Transportation System 🏓 PDF Publisher: IEEE Cite This Chengcheng Shao 💿 ; Ke Li 💿 ; Zechun Hu 💿 ; Mohammad Shahidehpour 💿 All Authors 995 5 R Full Cites in Text Views Papers More Like This Abstract: Abstract The alternative fuel vehicles (AFVs) which include electric vehicles (EVs) and natural gas vehicles (GVs) have gained much A Multiyear Security Constrained Document Sections attention in recent years for delivering a clean and low-carbon urban mobility. The AFV development is promoting the Hybrid Generation-Transmission coordination among electric power, natural gas, and transportation (ENT) networks. This paper proposes a coordinated Expansion Planning Algorithm I. Introduction planning method for investment on and operation of emerging urban energy infrastructures. The sites and sizes of refueling Including Fuel Supply Costs II. Traveling and Refueling stations are optimized along with the expansion strategies for electric power distribution network (PDN) and natural gas IEEE Transactions on Power Systems Demand Model Published: 2009 distribution network (GDN). First, AFV refueling demands are analyzed according to the refueling station constraints and

options, and transportation network (TN) constraints. Second, the coordinated planning model for PDN and GDN is formulated

method. Compared with existing solutions, the proposed panning method offers a more accurate AFV refueling demand model

with various refueling options. It is demonstrated that the coordinated planning can reduce investment and operation costs of

along with respective operation constraints in PDN, GDN, and TN. An efficient MILP solution method is developed for the

proposed optimization problem. Finally, several case studies verify the effectiveness of the proposed model and its solution

III. Proposed Coordinated

IV. Proposed Solution Method

Planning Model

Long-term expansion planning of integrated electricity and natural gas transportation infrastructures 2015 IEEE Power & Energy Society General Meeting Published: 2015

 $\sim$ 



# Identify most important technical terms under Keywords Keywords IEEE Keywords Planning, Transportation, Natural gas, Indexes, Costs, Fuels, Resistance heating Index Terms Electric Power, Natural Gas, Power Distribution, Electric Distribution, Electricity Gas, Natural Gas Distribution, Alternative Fuel Vehicles, Refuelling Stations, Fuel Vehicles, Operational Costs, Electric Vehicles, Distribution Network, Solution Method, Transportation Network, Power Network, Investment Costs, Urban Infrastructure,

Mixed Integer Linear Programming, Demand Model, Gas Pipeline, State Of Charge, Traffic Flow,

Electric Vehicles Charging, Mixed Integer Linear Programming Problem, Distribution Lines, Travel Behaviour,

Hydrogen Transport, Power Line, Electric Heating

Author Keywords



Electric power distribution, natural gas, and transportation networks, coordinated planning, alternative fuel vehicles, refueling stations

# **Identify Future Trends/Outlook according to authors**

Coordinated Planning of Electric Power and Natural Gas Distribution Systems With Refueling Stations for Alternative Fuel Vehicles in Transportation System

Publisher: IEEE Cite This DF

Chengcheng Shao (); Ke Li (); Zechun Hu (); Mohammad Shahidehpour () All Authors

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### SECTION VI. Conclusion

This paper has proposed a coordinated planning model for the urban energy infrastructure considering AFV refueling options. The PDN and GDN are expanded along with the refueling infrastructure for EVs and GVs. The respective operation constraints are also embedded in the proposed model. An MILP method is developed to provide an efficient solution for the proposed model. The case studies have verified the validity of the proposed model and its solution method. The results have shown that both the investment and the operation costs can be optimized by the coordination of PDN, GDN, and TN. In addition, the proposed improvement in the accuracy of the refueling demand model contributes to a rational expansion plan for coordinated PDNs, GDNs and TNs which reduces the operation and investment costs. In the future, temporal and spatial uncertainties of refueling demand and its interactions with refueling station planning will be studied in detail.

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# Check Aim and Scope of the Journals and Search Within Publication

#### Abstract

#### Abstract:

Document Sections

I. Introduction

- II. Traveling and Refueling Demand Model
- III. Proposed Coordinated Planning Model
- V. Proposed Solution Method

V. Case Studies

VI. Conclusion

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Authors

Page(s): 3558 - 3569

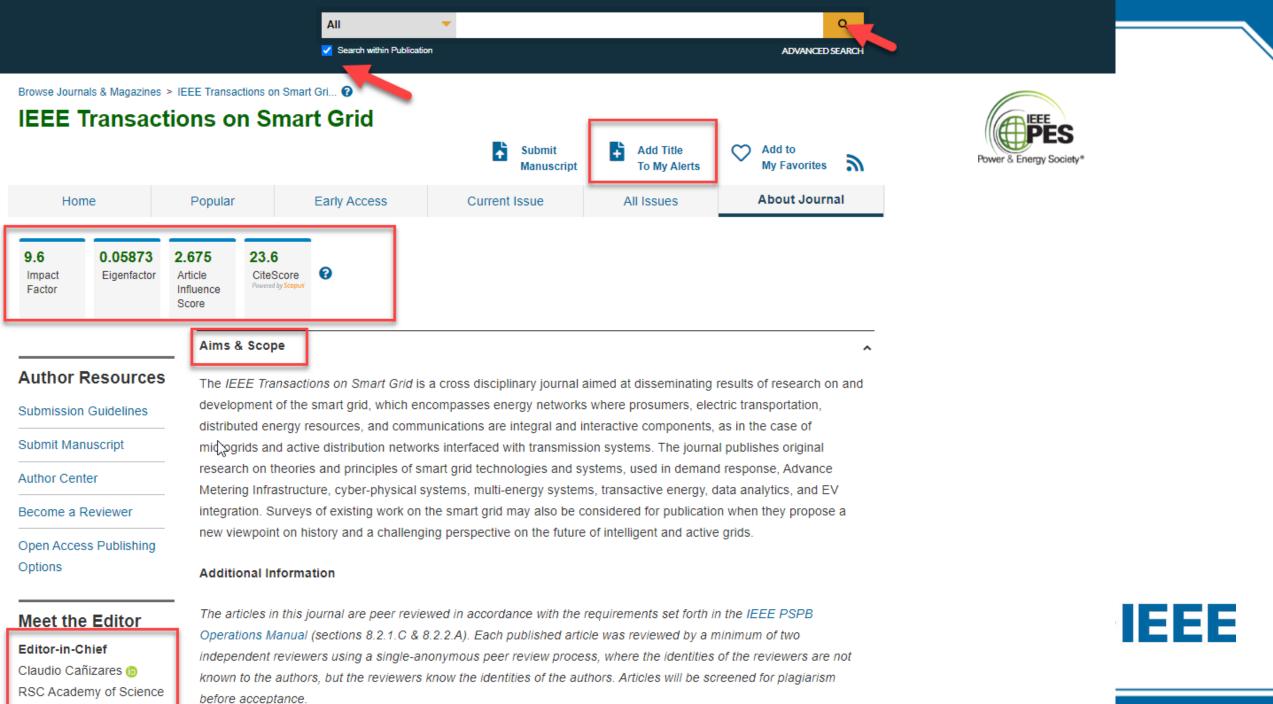


DOI: 10.1109/TSG.2022.3166965

attention in recent years for delivering a clean and low-carbon urban mobility. The AFV development is promoting the coordination among electric power, natural gas, and transportation (ENT) networks. This paper proposes a coordinated planning method for investment on and operation of emerging urban energy infrastructures. The sites and sizes of refueling stations are optimized along with the expansion strategies for electric power distribution network (PDN) and natural gas distribution network (GDN). First, AFV refueling demands are analyzed according to the refueling station constraints and options, and transportation network (TN) constraints. Second, the coordinated planning model for PDN and GDN is formulated along with respective operation constraints in PDN, GDN, and TN. An efficient MILP solution method is developed for the proposed optimization problem. Finally, several case studies verify the effectiveness of the proposed model and its solution method. Compared with existing solutions, the proposed panning method offers a more accurate AFV refueling demand model with various refueling options. It is demonstrated that the coordinated planning can reduce investment and operation costs of urban energy infrastructures by exploring the pertinent interactions among constrained PDN, GDN, and TN.

The alternative fuel vehicles (AFVs) which include electric vehicles (EVs) and natural gas vehicles (GVs) have gained much

Published in: IEEE Transactions on Smart Grid (Volume: 13, Issue: 5, September 2022)

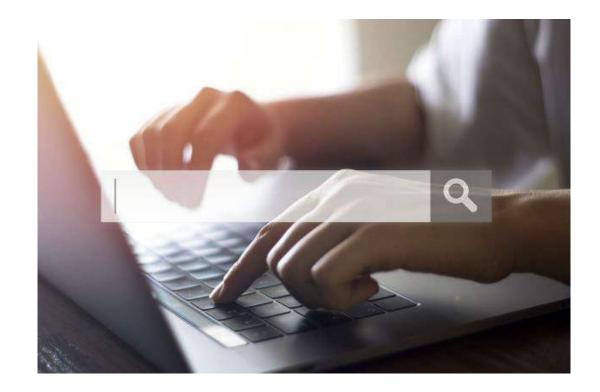


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### **Important Reminder**

Your **research problem** must contribute **new** and **important** knowledge to your field

- Conduct a literature review
- Take notes and keep track
- Gather references and citations





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A Cost-Efficient Approach to EV Charging Station Integrated Community Microgrid: A Case Study of Indian Power Market

Publisher:	IEEE Cite	This	🏓 PDF				R	<	C			
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#### Abstract:

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I. Introduction

II Proposed Framework

Rising atmospheric adulteration due to exponential growth in urbanization, industrialization, and increasing the number of onroad vehicles is raising an alarming situation for urban communities. To mitigate the effects of this escalating issue, there is direct need for implementation of alternative fuel-based distributed generation and transportation system. In this paper, an optimal framework of energy management system (EMS) for public electric vehicles (EVs) charging station integrated with the



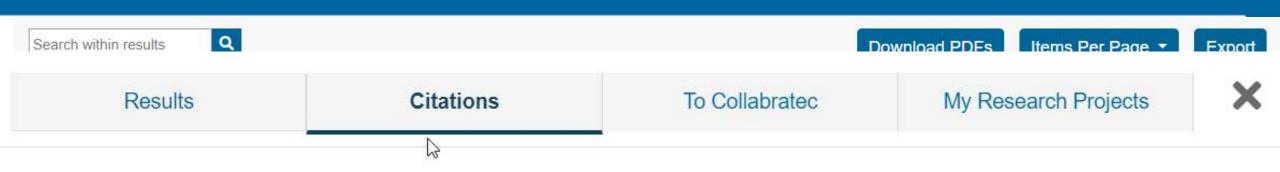
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### **Gather References & Citations**

- Conduct a Literature Review
- Take Notes & Keep Track
- Gather References and Citations







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#### Affiliation

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#### Biography

Natalia Wawrzyniak received the M.Sc. degree in computer science and engineering from the Szczecin University of Technology, in 2006, and the Ph.D. degree in computer science, image processing from the West Pomeranian University of Technology, Szczecin, Poland, in 2013. Since 2013, she has been an Associate Professor with the Maritime University of Szczecin, Poland. Her main research interests include spatial data processing, underwater remote sensing, and system design for various inland and marine applications. (Based on document published on 14 July 2023).



### Co-Authors: Izabela Bodus-Olkowska Tomasz Hyla Antoni Jaszcz Witold Kazimierski Dawid Połap Show All Co-Authors (8)



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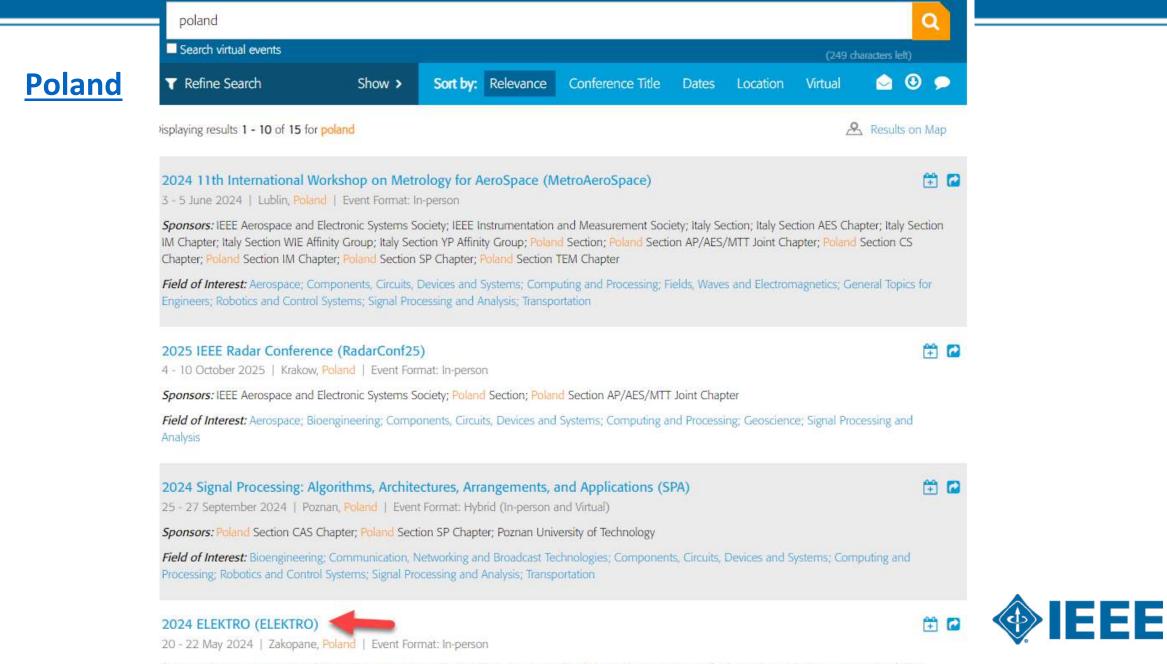
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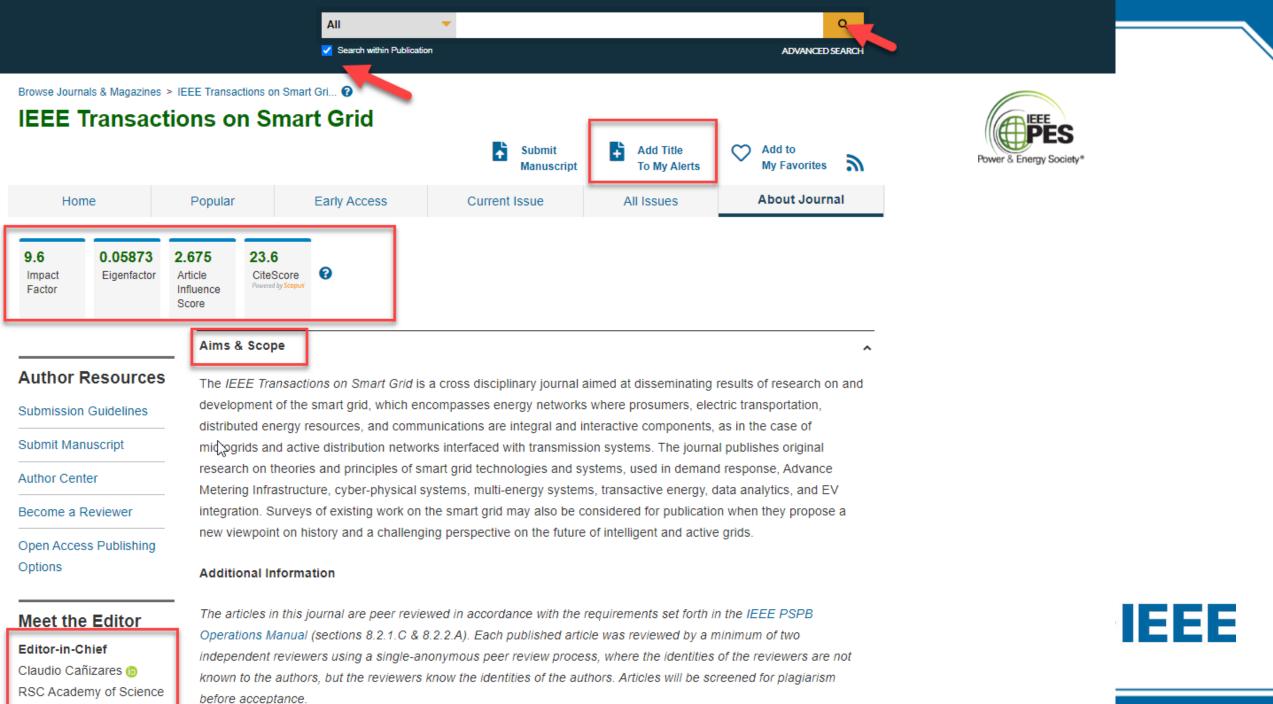
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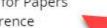
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# Writing the Article



#### **Components of a Typical Article**

Title	Specific, concise, descriptive
Abstract	Describe research in 250 words or less
Introduction	Novelty, goal, and motivation
Approach and Results	What you did, how you did it, and what results you obtained
Discussion and Conclusion	What your results mean and areas of further study
References	Proper attribution of previous work

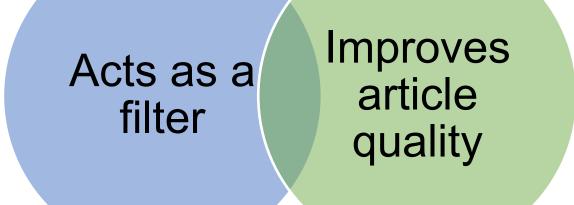


# Peer review process and what editors and reviewers are looking for



#### What is Peer Review?

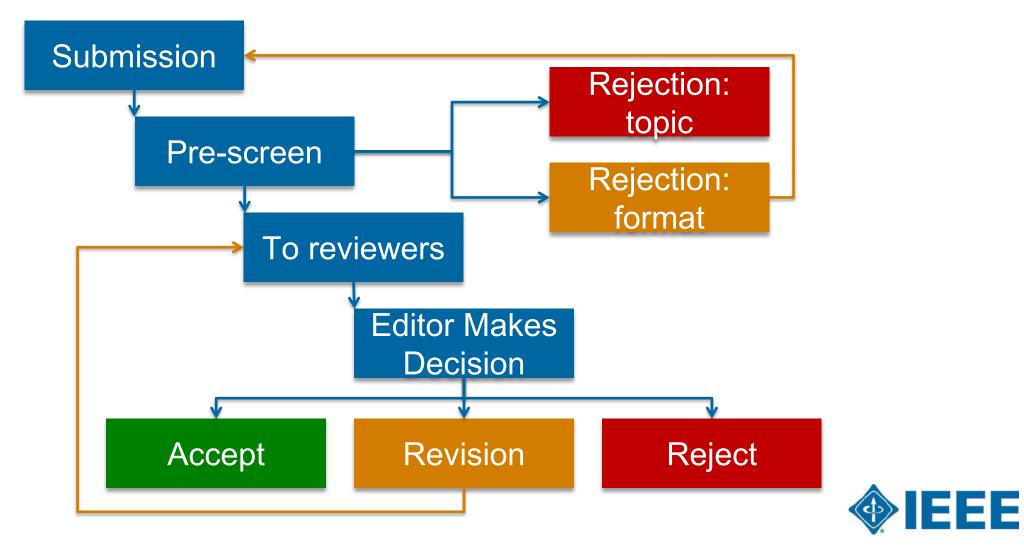
Peer review is "the critical assessment of manuscripts submitted to [publications] by experts who are not part of the editorial staff."<sup>1</sup>



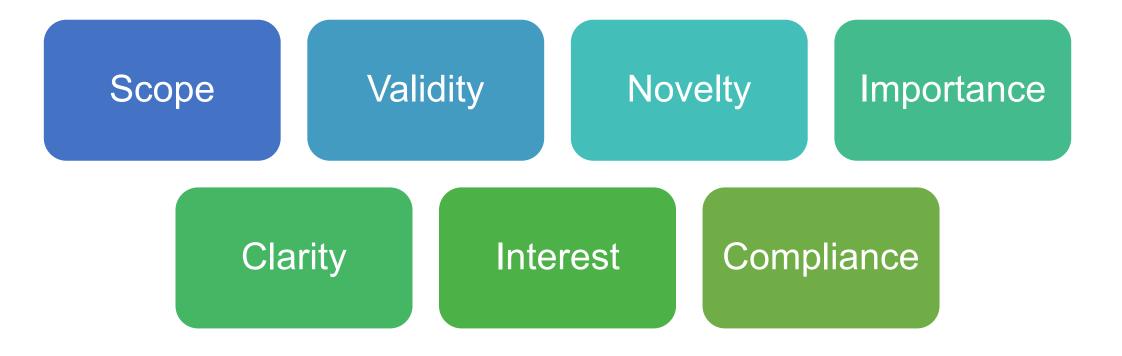


<sup>1</sup>International Committee of Medical Journal Editors

#### **How It Works**



#### What Reviewers and Editors Look For





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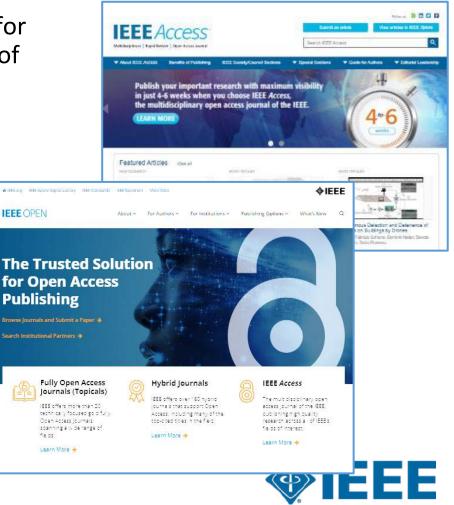
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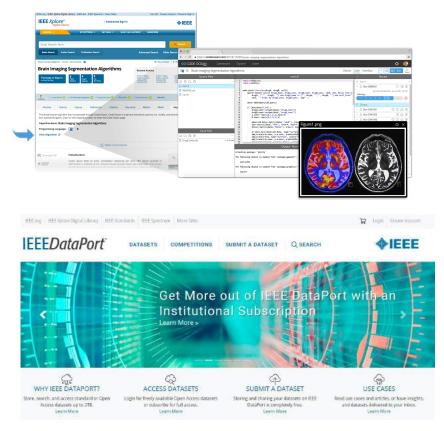


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- TechRxiv IEEE launched a new Preprint Server for Engineering and Technology, a service that lets authors post early and fully open versions of their articles, prior to peer review and prior to being published.

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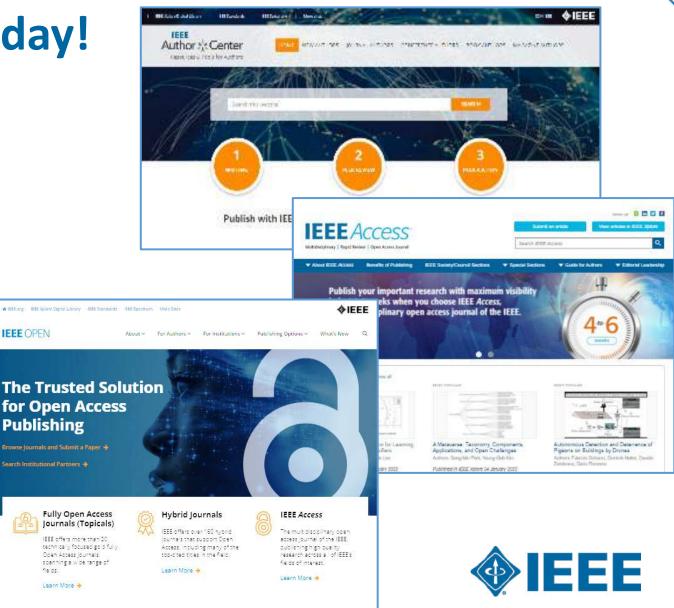


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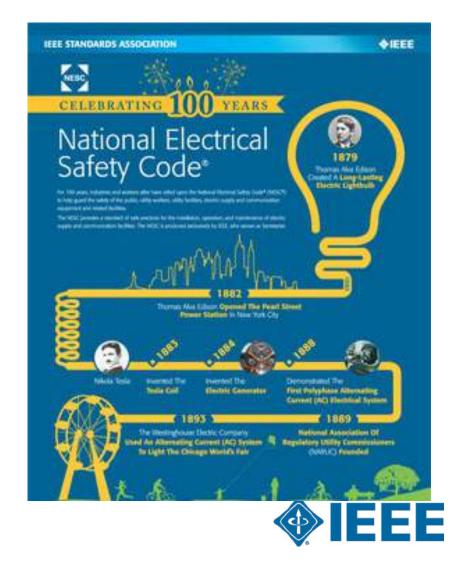
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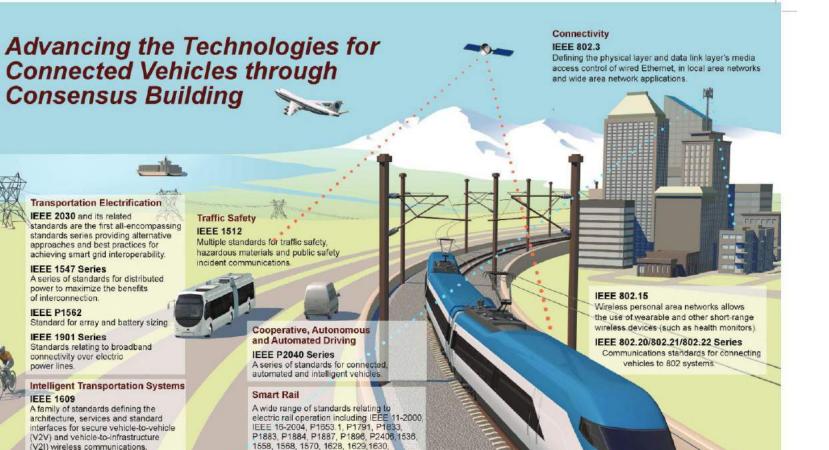
- Standards are the building blocks for product development and establish consistent protocols that are universally understood and adopted
- Standards establish compatibility, interconnectivity, interoperability, simplify product development, and speed time-to-market
- Standards ease understanding and comparison of competing products
- As standards are globally adopted, they aide with international trade
- Standards fuel development and implementation of technologies that influence and transform the way we live, work and communicate



# **Some Popular IEEE Standards**

- IEEE 802.11 Series: IEEE Standard for Wireless Communications (Wi-Fi)
- IEEE 3000 Standards Collection™: 70 "dot" standards covering specific technical topics on facets of industrial and commercial power systems
- IEEE 43<sup>™</sup>: IEEE Recommended Practice for Testing Insulation Resistance of Electric Machinery
- IEEE 80<sup>™</sup>: IEEE Guide for Safety in AC Substation Grounding
- IEEE 519™: IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems
- IEEE 830<sup>™</sup>: IEEE Recommended Practice for Software Requirements Specifications
- National Electrical Safety Code® (NESC®): Rules for practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communications lines and associated equipment





**IEEE 1616** Standards for motor vehicle event data recorders.

IEEE 802.11 WLAN to support communication between vehicles and the roadside and between vehicles while operating at speeds up to a maximum of 200 km/h for communication ranges up to 1000 meters.

1558, 1568, 1570, 1628, 1629, 1630, 1653 series, and 1698. As well as a series of standards relating to communication for rail transit systems, including IEEE 1473, 1474, 1475, 1476, 1477, 1482.1, and 1483.

#### And more...

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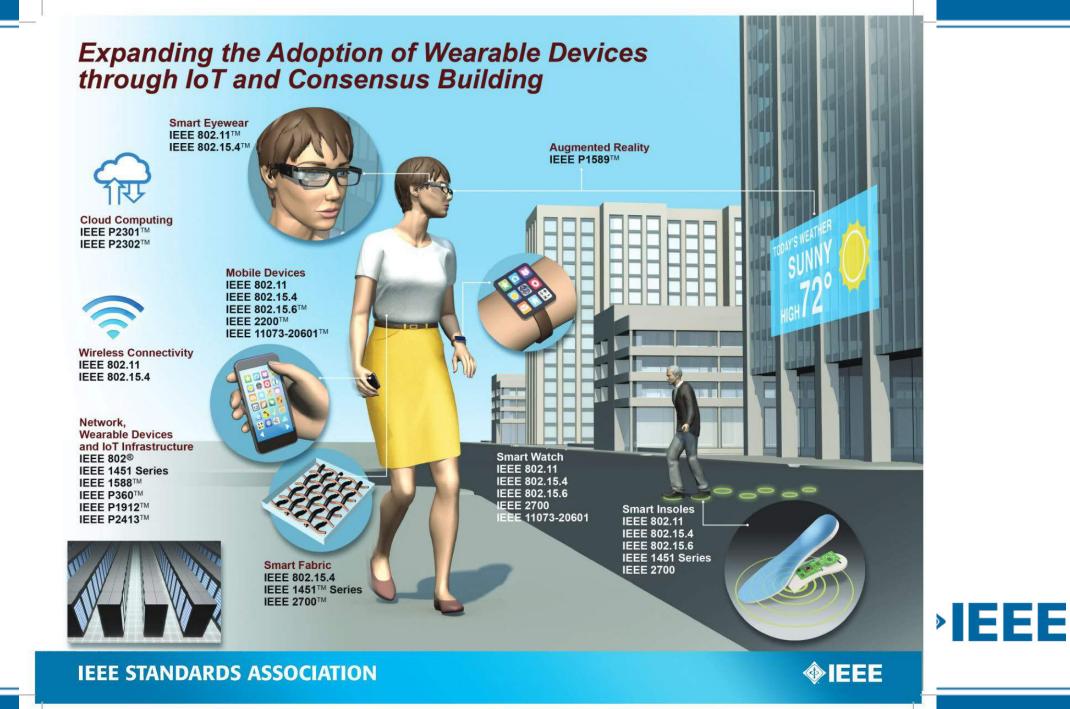
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#### Improving Personal Health Device Communications Through Consensus Building

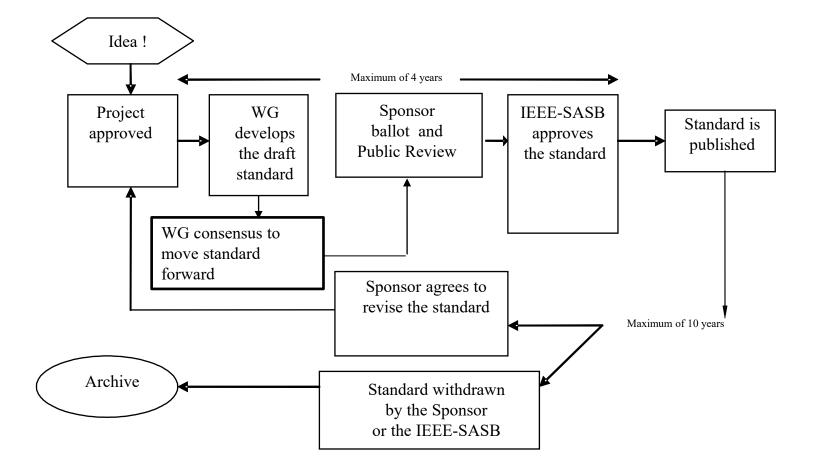


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#### **Standards Development Lifecycle**





Standards Process Overview: http://standards.ieee.org/develop/overview.html

# **Types of IEEE Standards**

- *Standards:* Documents with mandatory requirements
- Recommended Practices: Documents in which procedures and positions preferred by the IEEE are presented
- Guides: Documents in which alternative approaches to good practice are suggested but no clear recommendations are made
- Trial-Use Documents: Standards in effect for not more than three years
  - Can be any of the categories of standards publications listed above.





# IEEE Standard for Data Format for Blockchain Systems

### 1. Overview

### 1.1 Scope

This standard establishes data format requirements for blockchain systems. This standard addresses data structures, data types, and data elements.

#### 1.2 Purpose

This standard provides data format reference for organizations planning to use blockchain technology for constructing blockchain systems, while guiding blockchain service organizations on building data structures in blockchain system(s), and provides references about data formats for middleware service organizations during constructing blockchain systems(s).

:FF

### 1.3 Word usage

The word *shall* indicates mandatory requirements strictly to be followed in order to conform to the standard and from which nodeviation is permitted (shall equals is required to).<sup>1,2</sup>

The word *should* indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others; or that a certain course of action is preferred but not necessarily required (should equals is recommended that).

The word may is used to indicate a course of action permissible within the limits of the standard (may equals is permitted to).

The word *can* is used for statements of possibility and capability, whether material, physical, or causal (can equals is able to).





(normative)

#### Relevant data formats of consensus mechanism

#### C.1 Byzantine-like fault tolerance

NOTE—Byzantine-like fault tolerance consensus algorithm refers to a category of algorithms capable of solving the Byzantine Generals Problem. The typical algorithms include the PBFT algorithm and similar evolved algorithms.

#### C.1.1 Validator format

#### C.1.1.1 Validator address

The data format requirements of validator address are shown as follows:

Attribute	Content		
Name	Validator address		
Data type	String		
Data length	Fixed length		
Data description	Since the address is the identification for verification of ID, the validator shall not change its address.		
Data remark	Optional		



# **Read Journal Articles & Conference Papers**

Introduction to IEEE Standard. 1584 IEEE Guide for Performing Arc-Flash Hazard Calculations- 2018 Edition

All Authors

Publisher: IEEE

Cite This

Daleep Mohla; Wei-Jen Lee; Jim Phillips; Albert Marroquin

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2	311
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#### Abstract:

- Document Sections
- I. INTRODUCTION

Abstract

- II. LAB TESTS & MODEL DEVELOPEMENT
- III. INFORMATION NEEDED TO CONDUCT STUDY
- IV. CALCULATION EXAMPLES

V. CONCLUSION

IEEE 1584 has been the premier standard for arc-flash hazard arcing current, incident energy, and arcflash boundary calculations since it was first published in 2002. After extensive testing, and a long model development and validation period, the long-awaited revision of IEEE Std. 1584 has been published. The purpose of this paper is to introduce IEEE 1584-2018 "IEEE Guide for Performing Arc-Flash Hazard Calculations to the industry. The model range and the rationale for selection of the parameters is discussed for quantities such as voltage, bolted RMS short-circuit current, gap between conductors, enclosure dimensions, fault duration, working distance, and system frequency. Rationale is provided for the selection of electrode configurations and various enclosure (box) sizes and arrangements. This model is based on over six times the tests performed for the model used in the 2002 standard. It provides additional modeling of electrode configurations which were not included in the 2002 version. Some guidance on identifying electrode configurations are provided.



Published in: 2019 IEEE Petroleum and Chemical Industry Committee Conference (PCIC)

# **IEEE Standards Developments**

IEEE Standards development process may result in one or more of the following documents:

- New: Replaces or modifies another standard.
- Revision: Updates and replaces (i.e., supersedes) an existing IEEE standard in its entirety.
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# **IEEE Standard Status**

- **Drafts** Developing standards projects that have not yet been approved as standards
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- Redline Redline Versions of Standards show the actual revisions made to an approved standard or draft when a version changes.
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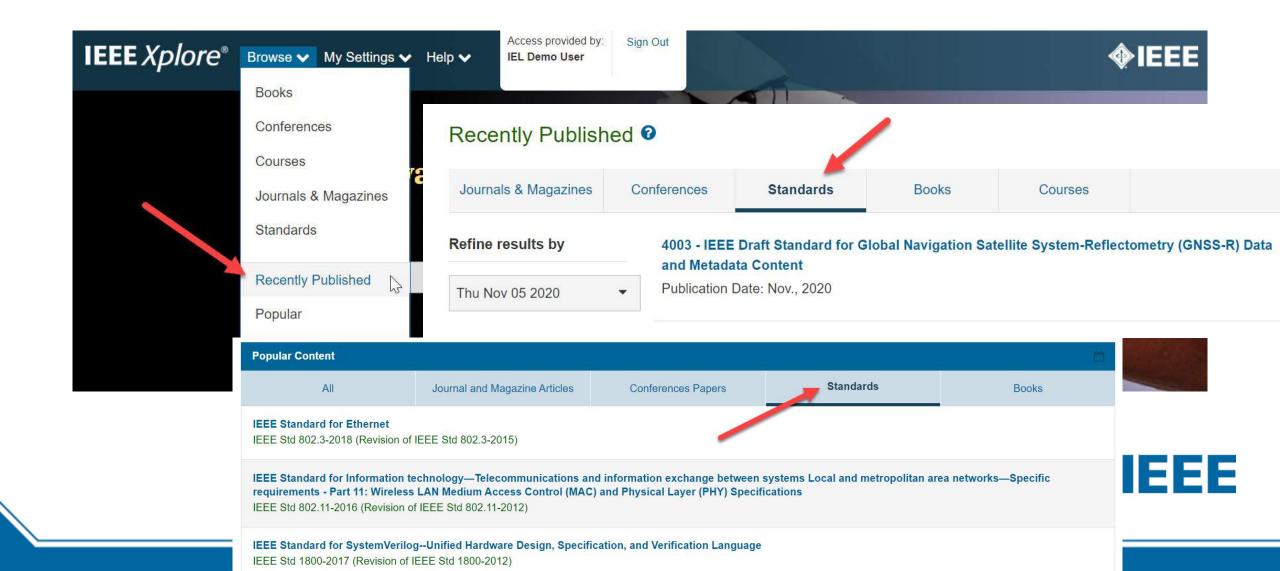


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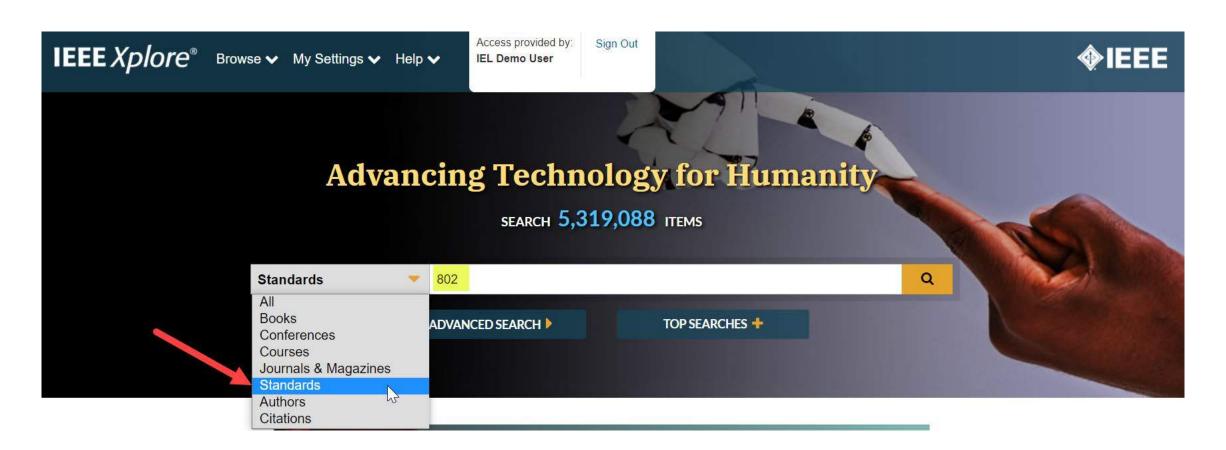
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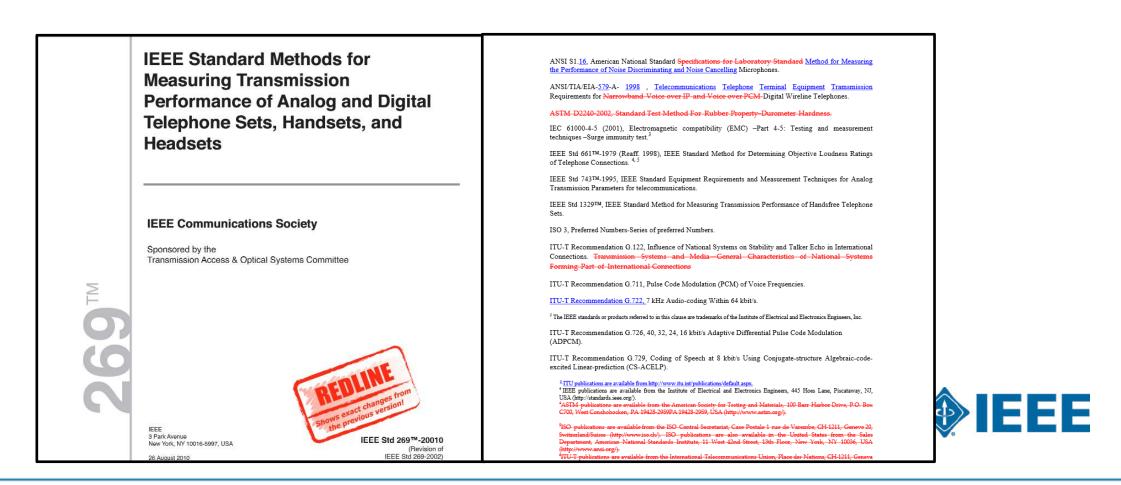
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