

# High-level accessibility review – LAA (IEEE Xplore)

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## Contents

Summary	3
Top 3 problems for the IEEE Xplore	3
Accessibility findings	3
Project wide issues	3
1. Landing Page	4
2. Search Results:5	
3. Result Details:6	
4. Advanced Search by clicking on title : <b>Error! Bookmark not defined.</b>	

## IEEE Xplore

### Summary

#### Top 3 problems for the IEEE Xplore

This high-level assessment covers limited portions and functionality of the IEEE Xplore. The assessment revealed issues with assistive technology compatibility, resulting in some users missing information required to perceive and understand content, and to operate functions. It is important to keep in mind that the findings represent a high-level assessment, and do not reflect the results of a Deque Comprehensive Web Assessment.

1. **Keyboard Navigation** – Many elements in the left panel are not accessible by the keyboard. This Issues of this type affect many types of users, not just screen reader users
2. **Contrast** – A handful of key controls and icon controls are low in contrast.
3. **Links** - Many links on the site are missing discernible text, which leads to Assistive Technology users potentially being unaware of the purpose of the affected links.

### Accessibility findings

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#### Project wide issues

The issues presented in this section were identified in multiple pages and are recorded here to avoid repetition. These are applicable to each screen. Due to particularities, similar issues are still reported on a page per page basis, where applicable.

#### Automated findings using Axe

Issues found through automated testing come from the Axe plugin, an open-source accessibility testing tool that is available for Chrome, Firefox, and Edge. Details here: <https://www.deque.com/products/axe/>.

1. **SC 1.3.1 A** –Form elements must have Labels for “From” and “to” for years setting in left navigation panel
2. **SC 2.1.1 A** – href value is missing for all download PDF links in page

#### Additional manual findings using NVDA screen reader

1. **SC 1.4.4 AA** – The left side panel content is missing at a 200% zoom level
2. **SC 1.4.10 AA** – The left side panel content is missing, and content is not functional on a reflow viewport that is 320 CSS px wide
3. **SC 2.1.1 A** – “Open Access” tooltip besides every page link is not keyboard accessible
4. **SC 1.1.1 A** – Image under funding agency is missing Alt text.

## 1. Initial interface

Source: <https://ieeexplore-ieee-org.offcampus.lib.washington.edu/Xplore/home.jsp>

Test case: Test initial interface/landing page to ensure menus & submenus, search box and “All” drop-down menu, etc. are accessible.

IEEE.org | IEEE Xplore | IEEE SA | IEEE Spectrum | More Sites

Cart Create Account Personal Sign In

IEEE Xplore® Browse ▾ My Settings ▾ Help ▾

Access provided by:  
University of Washington  
Libraries Sign Out

IEEE

Advancing Technology for Humanity

SEARCH 5,791,710 ITEMS

All ▾

ADVANCED SEARCH ▸ TOP SEARCHES +

IEEE CLIMATE CHANGE COLLECTION Learn More

Featured Authors Feedback

### Automated findings using Axe

No unique automated issues were found.

### Additional manual findings using NVDA screen reader

1. **SC 2.4.1 A** – Navigation land landmark and Banner landmark is not provided in the page
2. **SC 1.3.1 A** – Un-necessary list mark up is provided for “Cart link” in header section
3. **SC 1.1.1 A** – In accurate alt text is provided for the “IEEE Image”
4. **SC 1.4.11 AA** – The ‘Expand/collapse’ Icon is low in contrast for “all” drop down icon is low in contrast.

## 1. Search Results: Renewable Energy

Source : <https://ieeexplore-ieee-org.offcampus.lib.washington.edu/search/searchresult.jsp?newsearch=true&queryText=renewable%20energy>

**Test case:** From the initial interface, perform a search. Choose “Renewable Energy” Test results page, including Filter – Source Type, Sort by Relevance and Sort by Page Options.

The screenshot shows the IEEE Xplore search results interface. At the top, there is a search bar with the text 'All' and a search icon. Below the search bar, there are options for 'Download PDFs', 'Per Page: 25', 'Export', 'Set Search Alerts', and 'Search History'. The main content area displays 'Showing 1-25 of 75,697 results for renewable energy'. Below this, there are filter options for source types: Conferences (62,145), Journals (11,047), Magazines (1,175), Early Access Articles (710), Books (569), Standards (41), and Courses (10). A section titled 'Publications You May Be Interested In: (Beta)' features four conference cards: '2022 5th International Conference on Renewable Energy and Power', 'International Conference on Control, Electronics, Renewable Energy and', 'International Conference on Renewable Energy and Power Engineering (REPE)', and 'International Conference on Renewable Energy and Sustainable Energy (ICRESE)'. At the bottom, there is a 'Show' button, a 'Select All on Page' checkbox, a 'Sort By: Relevance' dropdown, and a 'Feedback' button. The IEEE logo and 'CAS' are also visible in the footer.

### Automated findings using Axe

1. **SC 4.1.2 A** – Aria input field must have accessible name for “year” slider in left navigation panel
2. **SC 4.1.2 A** – Button must have discernible text for “set search alerts” below advance search
3. **SC 1.3.1 A** – Form elements must have labels for “Year” Input text box in the left navigation panel

### Additional manual findings using NVDA screen reader

1. **SC 2.4.7 AA**– Focus indicator not visible on “Single year” and “Range slider” in left nav panel
2. **SC 2.1.1 A** - Keyboard support is missing for “X” icon next to renewable energy. Below the search results input text box
3. **SC 2.1.1 A** – Keyboard support missing for “Hide related publication” dropdown

### 3. Result Details: Filter to Journals

**Source:** [https://ieeexplore-ieee-org.offcampus.lib.washington.edu/search/searchresult.jsp?queryText=renewable%20energy&highlight=true&returnType=SEARCH&matchPubs=true&sortType=newest&subscribed=true&refinements=ContentType:Journals&refinements=ControlledTerms:power%20grids&ranges=2020 2023 Year&returnFacets=ALL](https://ieeexplore-ieee-org.offcampus.lib.washington.edu/search/searchresult.jsp?queryText=renewable%20energy&highlight=true&returnType=SEARCH&matchPubs=true&sortType=newest&subscribed=true&refinements=ContentType:Journals&refinements=ControlledTerms:power%20grids&ranges=2020%202023%20Year&returnFacets=ALL)

**Test case:** Filter to Journals in the upper pane of the search results and click Apply. Test the Sort By drop-down menu to Newest First. Test the filters on the left-hand side of the screen, by clicking on Subscribed Content and then limiting the years to 2020-2023. Limit the Publication Topics to “power grids.” Click Apply and Test the results page including expanding the Abstract for an article.

The screenshot shows the IEEE Xplore search results page. The top navigation bar includes links for IEEE.org, IEEE Xplore, IEEE SA, IEEE Spectrum, and More Sites. The main header features the IEEE Xplore logo, navigation menus (Browse, My Settings, Help), and a sign-out button for the University of Washington Libraries. A search bar is present with a dropdown menu set to 'All' and a search icon. Below the search bar, there are options for 'Download PDFs', 'Per Page: 25', 'Export', 'Set Search Alerts', and 'Search History'. The main content area displays 'Showing 1-25 of 1,355 results for renewable energy'. Filters applied include 'Journals', 'power grids', and '2020 - 2023'. There are checkboxes for 'Conferences (4,462)' and 'Magazines (60)'. A section titled 'Publications You May Be Interested In: (Beta)' shows four conference cards: '2022 5th International Conference on Renewable Energy and Power', 'International Conference on Control, Electronics, Renewable Energy and', 'International Conference on Renewable Energy and Power Engineering (REPE)', and 'International Conference on Renewable Energy and Sustainable Energy (ICRESE)'. A 'Feedback' button is visible at the bottom right.

#### Automated findings using Axe

1. **SC 4.1.2 A** – “Request permission for reuse” (C) link must have discernible text
2. **SC 1.1.1 A** – All the Images in the page are missing Alt text.

#### Additional manual findings using NVDA screen reader.

1. **SC 2.1.1 A** – Tooltip next to subscribed radio button in left navigation panel is not keyboard accessible
2. **SC 4.1.2 A** – Selected state is not defined by screen reader for the “Single year” and “Range” Buttons in left Navigation panel
3. **SC 4.1.2 A** – Expand/Collapse state is missing for all the “Abstract” links in the page
4. **SC 1.4.11 AA** – “Search icon” and “Text re-size Icon” is low in contrast.

#### 4. Advanced Search by clicking on title: **Blockchain-Based Intelligent Charging Station Management System Platform**

**Source:** <https://ieeexplore-ieee-org.offcampus.lib.washington.edu/document/9900304>

**Test case:** Click on the title “**Blockchain-Based Intelligent Charging Station Management System Platform.**” Test the article page including the Abstract, Document Sections, and PDF. Test References and Share by clicking on the icons near the top of the page. Scroll down to SECTION I and test the search function and text size tools on the right side of the page. Scroll down to “**FIGURE 1**” and click on Image.

The screenshot shows the IEEE Xplore article page. At the top, there is a navigation bar with 'IEEE Xplore' logo, 'Browse', 'My Settings', and 'Help' menus. A search bar is present with 'All' selected and a search icon. Below the navigation bar, the article title 'Blockchain-Based Intelligent Charging Station Management System Platform' is displayed. The publisher is 'IEEE Institute of Electrical and Electronics Engineers'. The authors listed are Yu-Jin Lin, Yu-Cheng Chen, Jun-Yi Zheng, Dan-Wei Shao, Dan Chu, and Hong-Tzer Yang. There are 177 full text views. The article is under a Creative Commons License. The abstract is partially visible: 'Abstract: A smart electric vehicle (EV) charging station energy management system (CSMS) based on'. On the right side, there is a promotional banner for 'Get Critical Training on Privacy by Design For Engineers' and a 'More Like This' section with a 'Feedback' button.

#### Automated findings using Axe

No unique automated issues were found.

#### Additional manual findings using NVDA screen reader

- 1 **SC 2.4.4 A** – Links must have discernible text for – “View References”, “Share”, “IEEE is not copy right holder of this material”, “Alerts” icons.
- 2 **SC 1.3.1 A** – Heading mark up is missing for “Abstract” and “Section 1”
- 3 **SC 1.4.11 AA** – “IEEE is not copy right holder of this material” icon is low in contrast.