



REVIEW OF WEB BASED ACCELERATOR SCIENCE CONTENT

TERMS OF REFERENCE

NKEIRU UBADIKE, INTERN, PHYSICS SECTION, DIVISION OF PHYSICAL AND CHEMICAL SCIENCES, DEPARTMENT
OF NUCLEAR SCIENCES AND APPLICATIONS N.UBADIKE@IAEA.ORG

ALIZ SIMON, NUCLEAR PHYSICIST, PHYSICS SECTION, DIVISION OF PHYSICAL AND CHEMICAL SCIENCES,
DEPARTMENT OF NUCLEAR SCIENCES AND APPLICATIONS ALIZ.SIMON@IAEA.ORG

1. Purpose and Background

Accelerator Science is a rich and diverse field of science at the intersection of physics, engineering, material science, computing and more. Having a strong online presence is important for the Science, given that most people primarily obtain their information from the internet. This review aims to collect web-based information to provide input to the IAEA AKP development, IUPAP 14 WG and its partners outreach activities.

2. Audience Definition

The target audience is general. We consider content for every possible population from students to accelerator scientists and end-users.

3. Review Objectives

We attempt to catalogue the accelerator science content on the internet including institutional webpages and project webpages and organize them according to parameters such as date created, geographical origin, content format and application. Finally, we aim to identify any emerging trends in web-based accelerator science content and highlight a selection of the highest quality content found.

Please kindly use Track changes. We aim to have your feedback by the end of May. Thank you, Aliz

4. Types of Accelerators considered in this Review

- Ion beam accelerators (IBA and AMS)
- High-energy physics particle accelerators
- Synchrotron light sources and Free electron Laser
- Nuclear Physics accelerators (e.g., spallation neutron sources)
- Industrial accelerators
- Medical accelerators

5. Approach and Methods

Various accelerator science adjacent search terms will be used to find English language content on the internet e.g., “accelerator physics”, “accelerator technology”, “synchrotrons”, “ion beam accelerators” etc. The exact list of search terms to be employed can be found in the appendix. The top 100 results shall be gathered using a self-written computer program (author: Nkeiru Ubadike) that employs a Google API (Application Programming Interface) and recorded in a database. Out of these, the top 20 results will be analyzed by classifying them into various categories. These include:

1. Content format (article video, infographic, social media account, etc)
2. Application (Physics Research, Industry, etc)
3. Geographical location
4. Institution type (Public, Private, Educational, etc)
5. Target audience (undergraduate, graduate, professional, general public)
6. Date created (if available)

Classification in this way should quantify the prevailing types of web-based accelerator science content accessible internet. We anticipate that this review should be completed no later than the end of June 2023.

This project can start after there is an agreement between IAEA and IUPAP WG14 relevant members on the ToR.

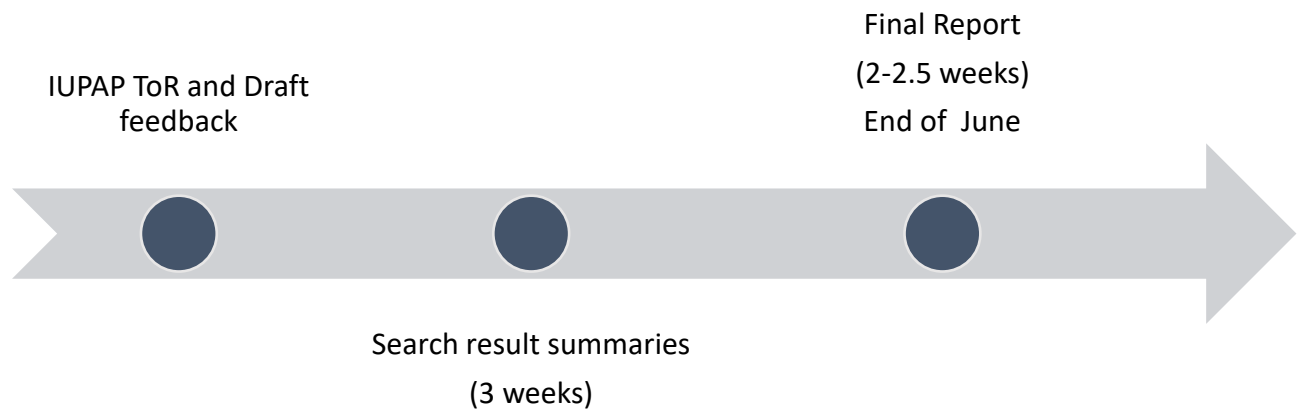
6. Final Deliverables

1. A short report on findings including full list of content including spreadsheet with all the content.
2. Webpage aggregating the content found.

These deliverables will be shared with IUPAP WG14 and we also intend to use the data on the IAEA [Accelerator Knowledge Portal](#).

Please kindly use Track changes. We aim to have your feedback by the end of May. Thank you, Aliz

Estimated Project Timeline



Appendix: Search Terms to Be Used

Particle accelerator

Electrostatic accelerator

Linear accelerator

Accelerator physics

Particle accelerator technology

Ion beam accelerator

Accelerator Mass Spectrometry

High energy physics particle accelerator

Synchrotron Light Source

Free Electron Laser

Medical Cyclotron

Boron Neutron Capture Therapy Facility

Particle accelerator for medical purposes

Nuclear Physics accelerator

Spallation Neutron sources

Please kindly use Track changes. We aim to have your feedback by the end of May. Thank you, Aliz

Industrial particle accelerator

Electron Beam Irradiator

Gamma Irradiator