Heavy ion accelerators for undergraduate and postgraduate education

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The Australian National University has a long history of fundamental nuclear science research, with Nuclear Physics being one of the foundation ANU Departments. The ANU has operated a series of heavy ion accelerators capable of initiating nuclear reactions for the purpose of studying nuclear properties, nuclear structure, and nuclear reactions. In recent decades there has been increased focus on the applications of heavy ions, with this being one of the focal points under discussion at the present Heavy Ion Accelerator Symposium. Common to most universities, the critical mass of the research workforce has, and continues to be, principally composed of postgraduate research students.

While the use of our heavy ion accelerators for research has been long established, more recently they have seen increased use for students undertaking coursework programs, both at the undergraduate and postgraduate (masters) level. This was already a feature of the accelerator scheduling, but it has become an even larger component with the advent of AUKUS and increasing numbers of students requiring education and experience in nuclear areas.

This presentation will provide examples of how heavy ion accelerators are used in our coursework programs, illustrating how they enhance acquisition of fundamental knowledge, while also providing experience in the management of complex systems, understanding and implementation of safety procedures, and the development of a nuclear mindset.