

# IAEA Workshop on Innovative Approaches of Accelerator Science and Technology for Sustainable Heritage Management

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## Future Possibilities in Portable Accelerators for Cultural Heritage

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Particle accelerators conducting Ion Beam Analysis (IBA) have proven to be a powerful tool for gaining insight into cultural heritage. For the most part, these IBA techniques are non-destructive and can be applied in a non-invasive manner. However this does require that the objects being studied are removed from their setting and taken to an accelerator facility. It is not always feasible to remove an object from the field or museum and transport it to the laboratory, and in these situations a compact accelerator would be greatly beneficial. We will present the possibility of a compact 2 MeV proton accelerator that could be taken into the field to perform PIXE measurements. We detail some of the main challenges and considerations for such a device. Such a device could be used across an array of cultural heritage fields. In this talk, we will focus on the application of IBA to rock art –one of the more challenging environments for a portable accelerator.

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