

Foreword

Selected papers from the 14th International Topical Meeting on Nuclear Applications of Accelerators (AccApp'21)

Guest Editors

Lin Shao,^a William Horak,^b Valeriia Starovoitova,^c and Philip Cole^d

^a*Texas A&M University*

^b*Advanced Research Projects Agency–Energy*

^c*International Atomic Energy Agency*

^d*Lamar University*

The 14th International Topical Meeting on Nuclear Applications of Accelerators (AccApp'21) was organized by the Accelerator Applications Division of the American Nuclear Society (ANS) in cooperation with the International Atomic Energy Agency (IAEA) and Texas A&M University (TAMU). Originally planned to be held at the IAEA headquarters in Vienna, Austria, in 2020, the meeting was postponed due to the global spread of COVID-19. It became an embedded topical meeting held during the 2021 ANS Winter Meeting, taking place October 31–November 2, 2021, in Washington, D.C.

AccApp'21 adhered to the conference's historical mission of promoting accelerator-based research and development. It encompassed 11 major research topics, including accelerator facilities, accelerator design and technology, nuclear data, accelerators for materials science, high-power accelerator components and targets, effects on materials for microelectronics, accelerators for security and forensics, accelerators for environmental studies, medical applications of accelerators, industrial applications, and accelerators for cultural heritage. These topics combined traditional subjects with emerging technologies.

A total of 120 abstracts were submitted for the conference. Over the course of two and a half days, 105 presentations were given. Each day began with a plenary talk session, followed by three parallel sessions. After the conference, 33 submissions were received as

full conference proceeding papers. Out of these, 30 papers were accepted and included in the final ANS proceedings. Additionally, 18 papers were invited and submitted to *Nuclear Science and Engineering* (NSE). Among these, 14 papers were accepted and are included in this special issue of NSE.

AccApp'21 took place during the midst of the COVID pandemic and faced significant challenges as a hybrid conference, accommodating both in-person and online participation. We would like to express our gratitude to all the participants who attended the conference, both in person and virtually. Their active engagement and contributions made the conference a successful event. Additionally, we extend our appreciation to the on-site technical support team for their efforts in ensuring a smooth conference experience for all attendees.

The general chair of the conference was Lin Shao from TAMU. The cochairs were Valeriia Starovoitova from the IAEA and Philip Cole from Lamar University. William Horak, then of Brookhaven National Laboratory, served as the publications chair. The coordination of the conference was overseen by Janet Davis from ANS.

The conference organization received support from many accelerator experts from industry, national laboratories, and universities, who served as topic organizers and session chairs and also contributed to the review of abstracts and full conference proceeding papers. The conference could not have been successful without the help

of the following individuals: Andrew Hutton, Sotirios Charisopoulos, Peter Ostroumov, Yousry Gohar, Oliver Kester, Eric Pitcher, Jean-Christophe Sublet, Adriaan Buijs, Khalid Hattar, Ian Swainson, Yongqiang Wang, Richard Lanza, Lance Garrison, Franco Lucarelli, Carol Johnstone, Suresh D. Pillai, and Charlie A. Cooper.

We would like to extend our heartfelt thanks for the financial sponsorship from the National Nuclear Security

Administration and the IAEA. Both organizations have been long-standing supporters of AccApp conferences, and their continued support has been instrumental in making this conference a success.

Finally, we would like to express our gratitude to Farzad Rahnema, editor of NSE, and David Strutz, production manager at ANS, for their guidance, professional service, and patience in producing this special issue.