

Radiation Effects of REBCO coated conductors and insulation materials for High-Radiation environments with the US-Japan HEP collaboration

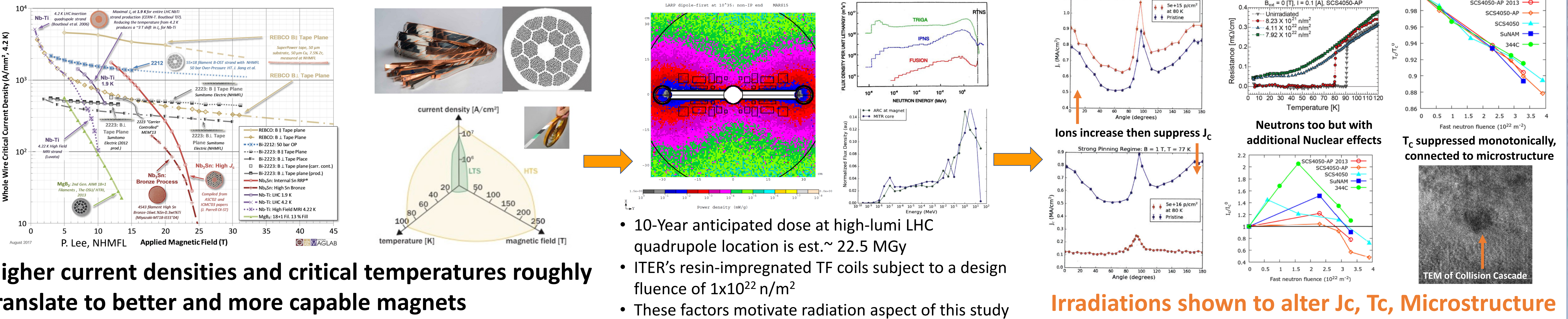


1. Lawrence Berkeley National Lab, 2. KEK, 3. University of California, Berkeley

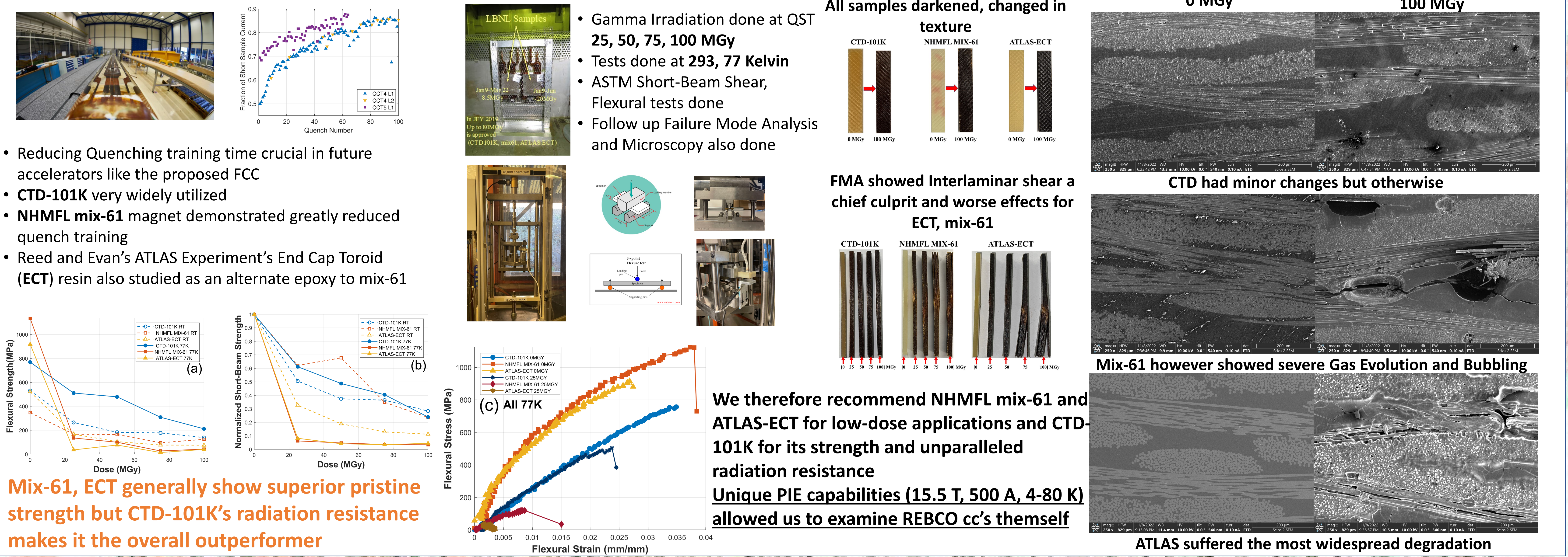
Chris Reis^{1,3}, Tengming Shen¹, Masami Iio², Toru Ogitsu², Tatsushi Nakamoto², Soren Prestemon¹, Peter Hosemann³



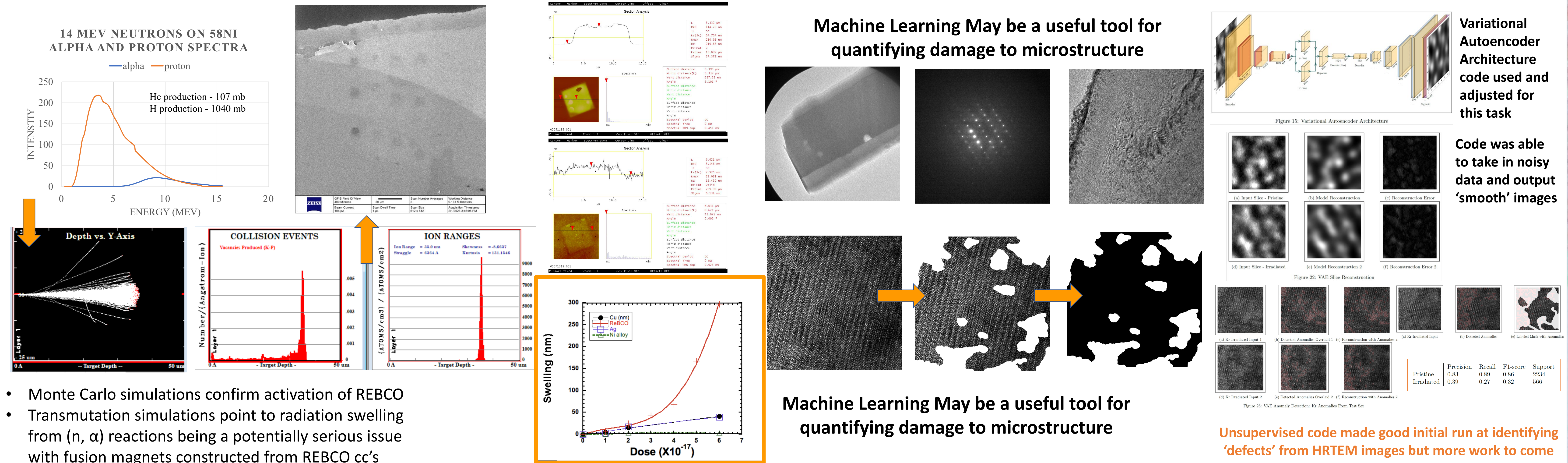
1 High-Temperature Superconductors opens new application space but sensitivities to radiation unknown



2 Crucial Superconducting-Magnet Insulation Materials found to be Gamma-Radiation Sensitive



3 The Effects on Coated Conductors Warrant Materials Science Investigation of the REBCO superconductor



References

1. Photographer: Brice, MaximilienTaken: 16 Jun 2017Uploaded to <http://cds.cern.ch/record/2272497>: 16 Jun 2017 Record last updated: 22 Jun 2021. © CERN, License: <http://creativecommons.org/licenses/by/4.0/>
2. Yin et al.(2019). Epoxy Resins for Vacuum Impregnating Superconducting Magnets: A Review and Tests of Key Properties. *IEEE Transactions on Applied Superconductivity*, vol. 29, no. 5, pp. 1-5
3. [3] F. Hosni et al. (2013,) Effect of gamma-irradiation on the colorimetric properties of epoxy-resin films: Potential use in dosimetric application. *Nuclear Instruments and Methods in Physics Research*. vol. 311, p. 1-4, ISSN 0168-583X

Acknowledgements

The work at LBNL was supported by the Director, Office of Science of the US Department of Energy (DOE) under Contract no. DE-AC02-05CH11231



It's an exciting time for HTS magnet technologies with several crucial studies supported by US-Japan collaboration. We appreciate your continued support!

Contact
Christopher Reis
reisch@lbl.gov
(850)-597-0741