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A Bridge Too Far: The Demise of the Superconducting Super Collider, 1989–1993¹

MICHAEL RIORDAN², University of California, Santa Cruz (Emeritus)

In October 1993 the US Congress terminated the Superconducting Super Collider — at over \$10 billion the largest and costliest basic-science project ever attempted. It was a disastrous loss for the nation's once-dominant high-energy physics community, which has been slowly declining since then. With the 2012 discovery of the Higgs boson at CERN's Large Hadron Collider, Europe has assumed world leadership in this field. A combination of fiscal austerity, continuing SSC cost overruns, intense Congressional scrutiny, lack of major foreign contributions, waning Presidential support, and the widespread public perception of mismanagement led to the project's demise nearly five years after it had begun. Its termination occurred against the political backdrop of changing scientific needs as US science policy shifted to a post-Cold War footing during the early 1990s. And the growing cost of the SSC inevitably exerted undue pressure upon other worthy research, thus weakening its support in Congress and the broader scientific community. As underscored by the Higgs boson discovery, at a mass substantially below that of the top quark, the SSC did not need to collide protons at 40 TeV in order to attain its premier physics goal. The selection of this design energy was governed more by politics than by physics, given that Europeans could build the LHC by eventually installing superconducting magnets in the LEP tunnel under construction in the mid-1980s. In hindsight, there were good alternative projects the US high-energy physics community could have pursued that did not involve building a gargantuan, multibillion-dollar machine at a green-field site in Texas.

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²Now living in Eastsound, WA, on beautiful Orcas Island. Contact: mriordan137@gmail.com.