

APR05-2005-000712

Abstract for an Invited Paper
for the APR05 Meeting of
the American Physical Society

A Globally Designed Linear Collider

MAURY TIGNER, Cornell University

The International Linear Collider is a proposed future international particle accelerator. It would create high-energy particle collisions between electrons and positrons, their antimatter counterparts. The collider would occupy a tunnel up to 40 km in length. The ILC would provide a tool for scientists to address many of the most compelling questions of the 21st century about dark matter, extra dimensions, and the fundamental nature of matter, energy, space and time. From its inception, the ILC would be designed, funded, managed and operated as an international scientific project. Scientists from throughout the worldwide particle physics community have endorsed an electron-positron linear collider as the next high-energy particle accelerator. Last August, an international panel made a difficult but necessary decision in choosing superconducting-technology for the accelerating system of the ILC. The decision opened the way for the world particle physics community to concentrate its combined resources behind one technology. There is a long way to go and much hard work needed before the final design of the ILC is established. A Global Design Organization is now being formed to coordinate this effort.