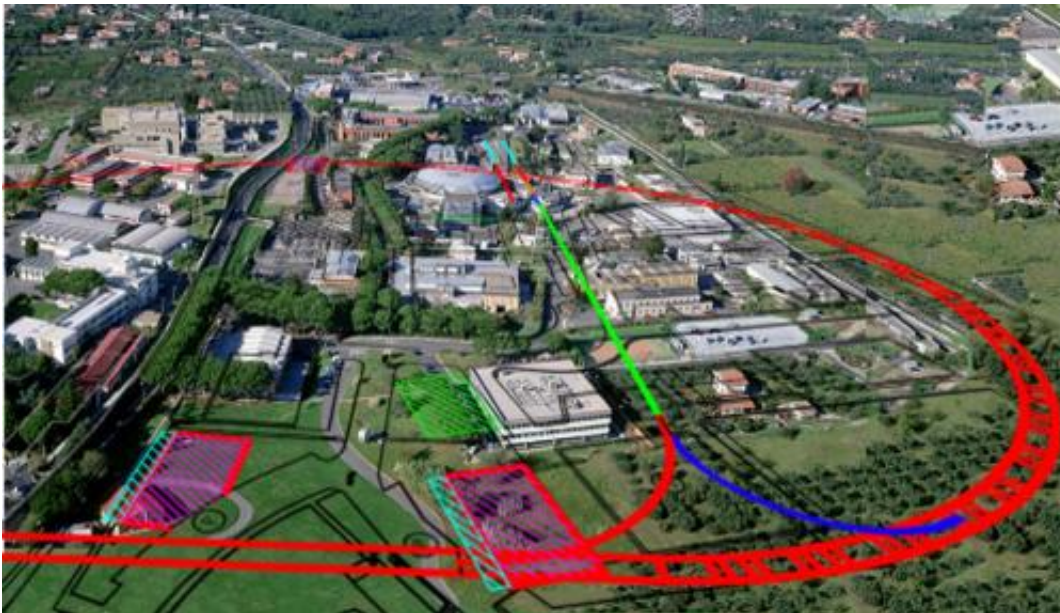


New SuperB factory particle-accelerator project launched in Italy

October 12 2011, by Bob Yirka



Overlay of the accelerator project on top of the Frascati site

(PhysOrg.com) -- The SuperB factory, a particle-accelerator to be built in Rome and approved last May by the Italian government was officially launched this past Friday with construction set to begin sometime in the near future. The accelerator, which is expected to take six years to build, will be constructed on the University of Rome Tor Vergata campus and will be named for the late Nicola Cabibbo, the Italian physicist best known for his work with weak force interactions.

The particle-accelerator, known as a B type factory because it will send electrons and positrons ([antiparticles](#)) around a track, will be 1.3 kilometers long. The two particles will be made to collide producing what is known as heavy B mesons. Physicists studying them and how they decay hope to find answers to questions such as to why there appears to be less antimatter than matter in the known universe.

The project is one of 14 the Italian government has approved as part of its CIPE Economic Planning Document. Championed by the Istituto Nazionale di Fisica Nucleare (INFN), the accelerator will span 30 hectares on the university campus and will be within shouting distance of INFN Frascati National Laboratories.

The new accelerator will be capable of producing as much as 100 times the number of collisions each year as its predecessors, which physicists label as an increase in [luminosity](#). Also, the facility will be run by the INFN who plan to work with university officials to put together a team of international experts to oversee construction and eventually operation of the new facility. Its initial director will be current president of the INFN, Roberto Petronzio.

All involved in the project are quick to point out that the new facility is not meant to compete with the European collaborative project, the [Large Hadron Collider](#) in Switzerland, but to complement it. The hope is that discoveries made at [CERN](#) can be modeled at [SuperB](#) to help in better understanding them. Also, its proponents say that by increasing the rate of collisions that can be observed at the facility, researchers hope to shed new light on subjects such as why [antimatter](#) apparently disappeared shortly after the big bang, or what's behind the forces that hold matter together.

Unfortunately, despite the rosy outlook described by the Italian government, the project is still not fully funded. The government has

only pledged a fraction of what will be needed and to move forward, other partners will have to pledge funds, likely European or Asian, as the United States has pledged most of its resources to the Japanese Bell II project, an upgrade to another particle-accelerator project.

More information: web.infn.it/superb/

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