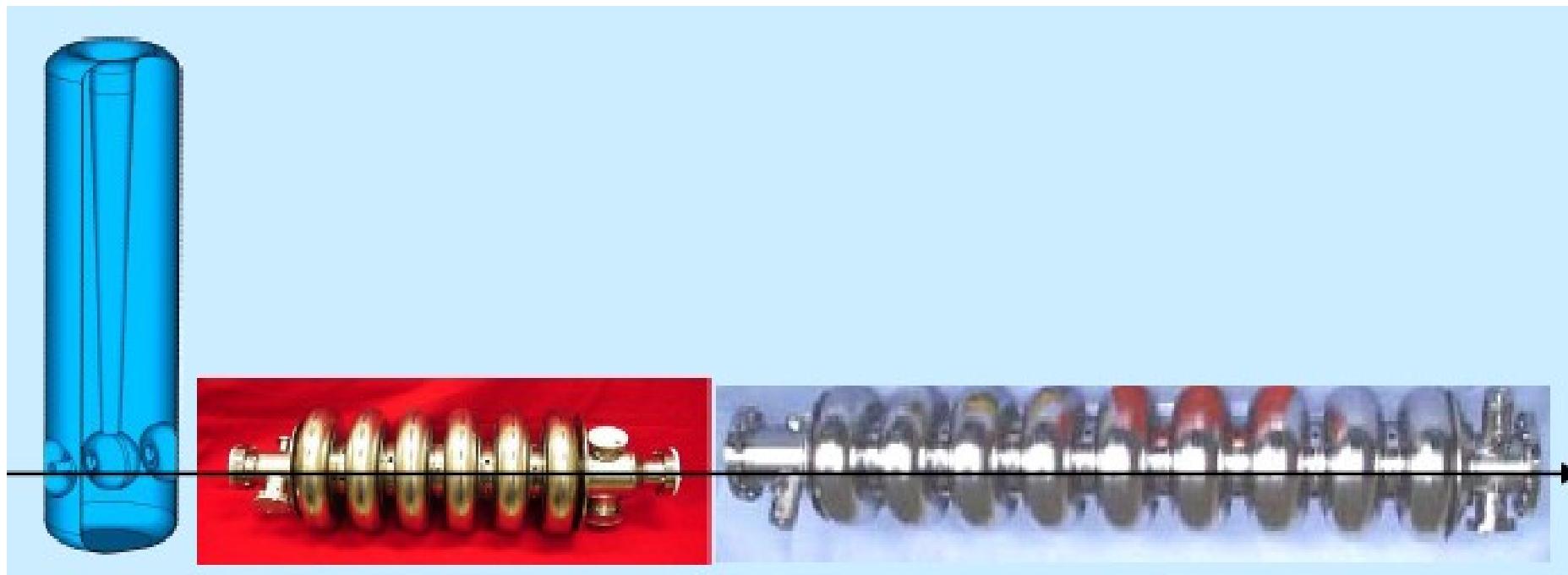


50 Years of RF Superconductivity.



24 May 2011, 16 h
Flash Hall, DESY, Hamburg

Hasan Padamsee (Cornell University)

2011 is the 100th anniversary of Kammerlingh Onnes' discovery of superconductivity. It is also the 50th anniversary of the launch of RF superconductivity at Rutherford Appleton Laboratory in 1961. Exploration of RF superconductivity took off at Stanford University in the early 1960's with the acceleration of electrons in a lead-plated on copper resonator. Steady advances in accelerating gradients have led to large-scale application to electron, proton and ion accelerators around the world for research in elementary particle, nuclear, and nuclear-astrophysics, high intensity x-ray sources, free electron lasers, and neutron spallation sources. In all more than one kilometer of cavities have provided more than 7GeV of acceleration. The largest application underway today is a 15 GeV superconducting linac for the European XFEL in Hamburg, Germany. A new Facility for Rare Isotope Beams (FRIB) is under way at MSU in the US to allow the study of exotic isotopes related to stellar evolution. A major future application is likely to be the International Linear Collider (ILC). To achieve TeV energy will require 16 km of superconducting cavities. The success of such applications has sprung from the steady advances in performance of SRF. I will also discuss exciting prospects for future advances.

- [Tea and cookies will be served at 15.45h.](#)
- [After the seminar there is a chance for private discussions with the speaker over wine and pretzels.](#)

