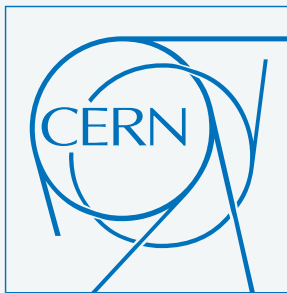


CERN & LHC

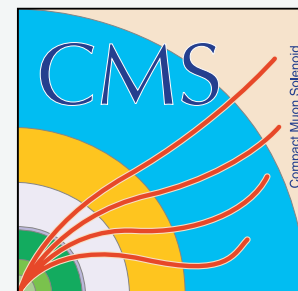
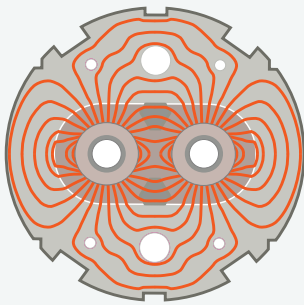


CERN: The Laboratory

The Large Hadron Collider (LHC)

Collisions at LHC

Detectors at LHC



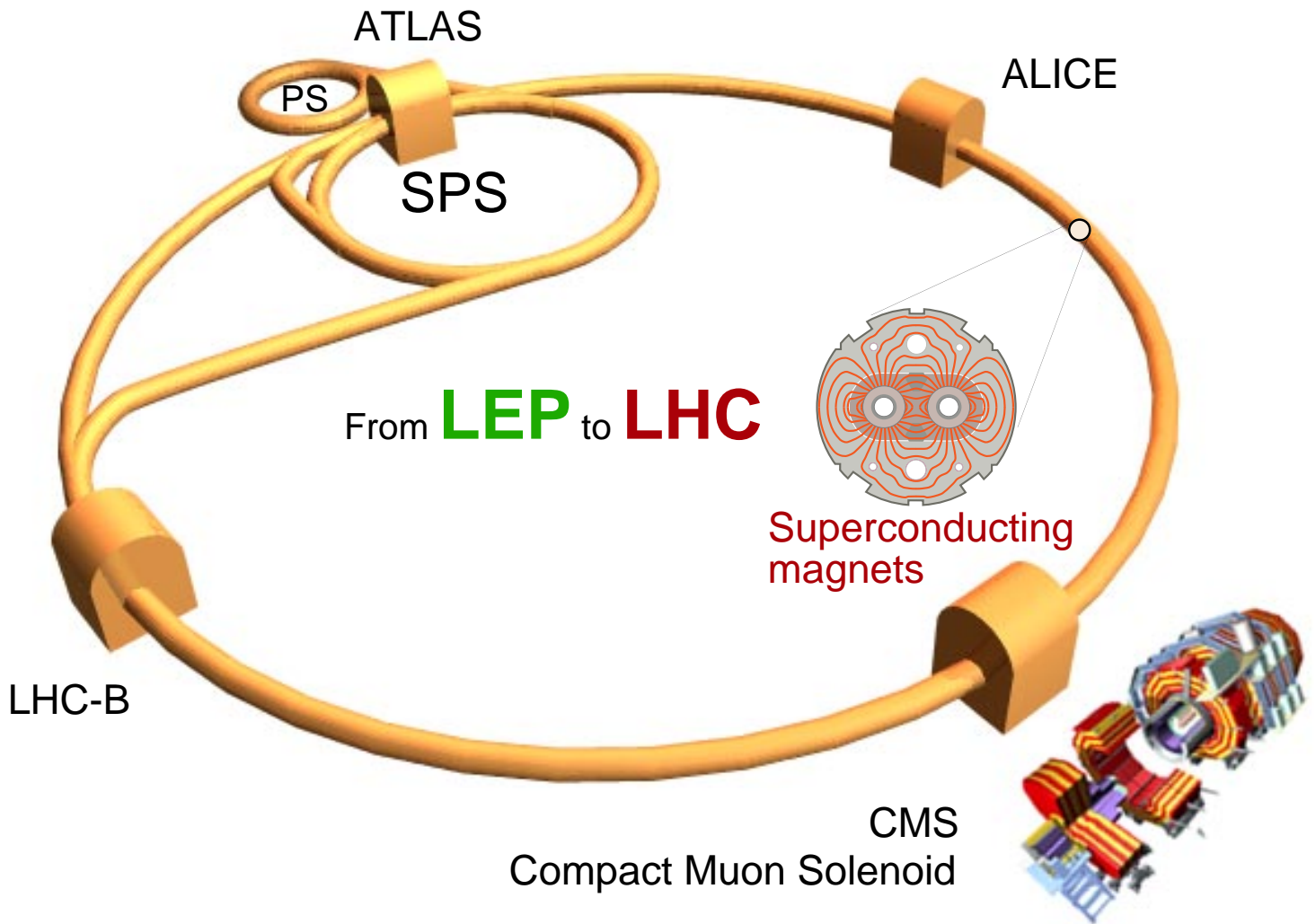
CERN: The Laboratory

- International organization established in 1954
- 19 member states + observers
- Today about half of the world's high-energy physics experiments are performed at CERN
- Dedicated to basic research on

elementary constituents of matter and their
fundamental interactions

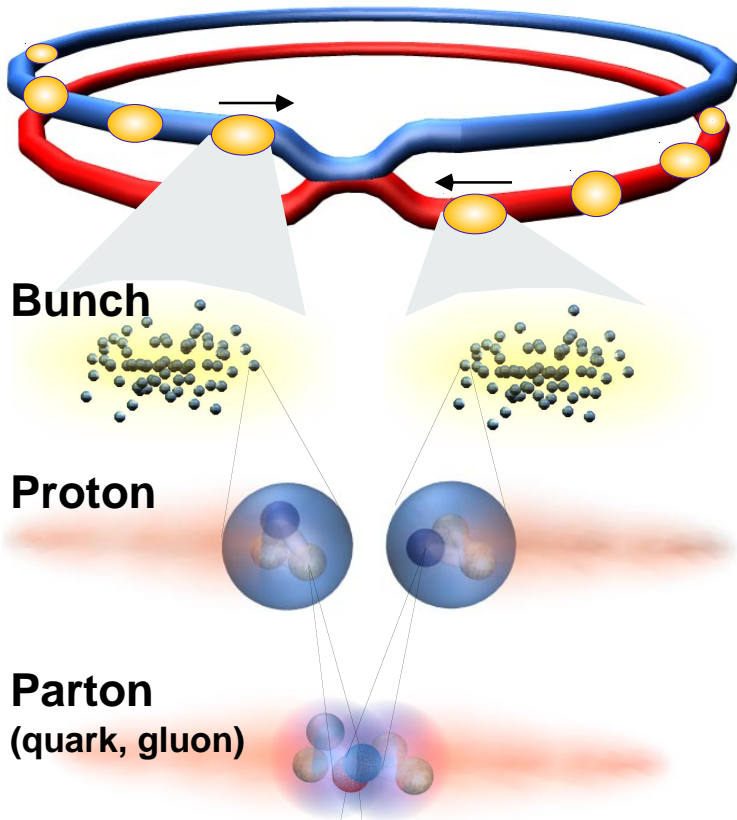
*If you want to know more about CERN,
find out through the Laboratory's invention
the World-Wide Web: <http://www.cern.ch/>*

The Large Hadron Collider (LHC)

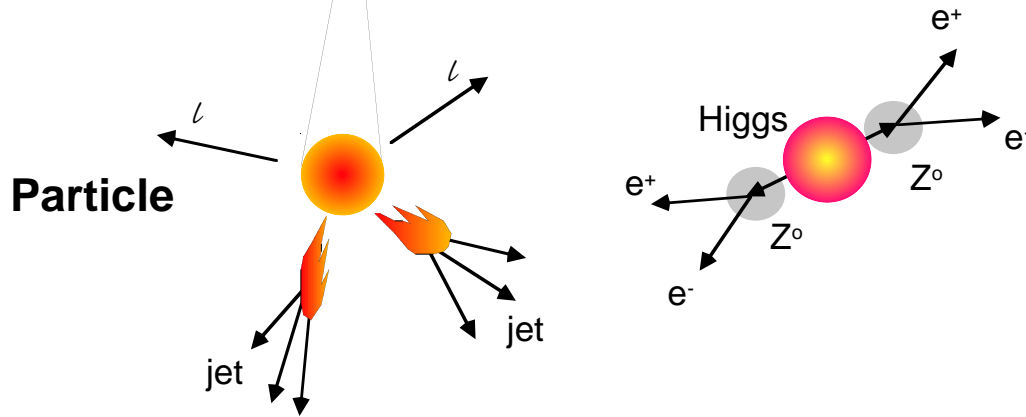


	Beams	Energy	Luminosity
LEP	e ⁺ e ⁻	200 GeV	10 ³² cm ⁻² s ⁻¹
LHC	p p	14 TeV	10 ³⁴
	Pb Pb	1312 TeV	10 ²⁷

Collisions at LHC



Proton-Proton	(2835 x 2835 bunches)
Protons/bunch	10^{11}
Beam energy	7 TeV (7×10^{12} eV)
Luminosity	10^{34} cm ⁻² s ⁻¹
Crossing rate	40 MHz
Collisions \approx	$10^7 - 10^9$ Hz



Higgs

SUSY.....

Selection of 1 in 10,000,000,000,000

