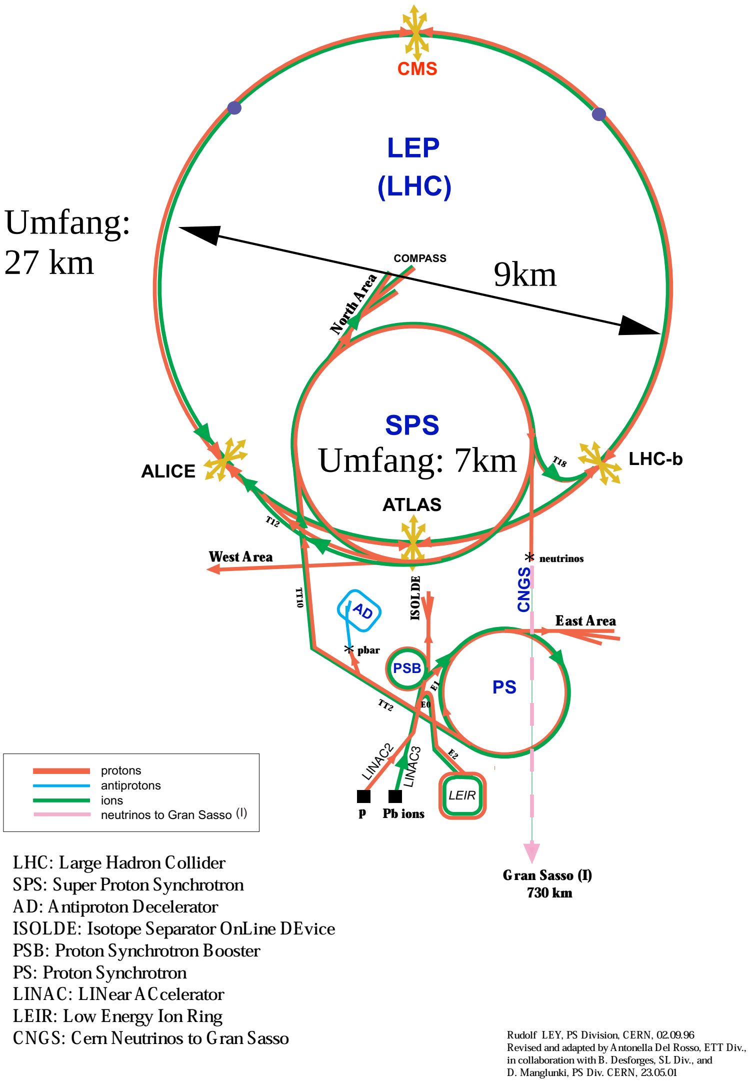
Technische Universität
Carolo-Wilhelmina
zu Braunschweig

Institut für Theoretische Physik

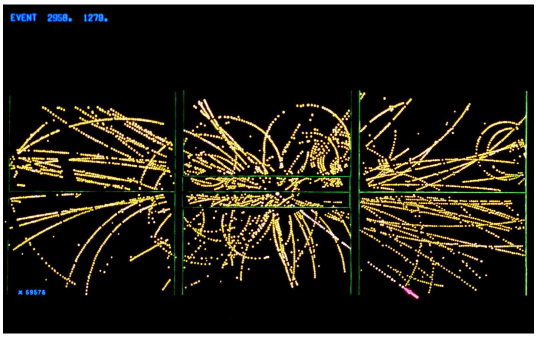
Dr. Andreas Honecker

Intermediäre Vektorbosonen

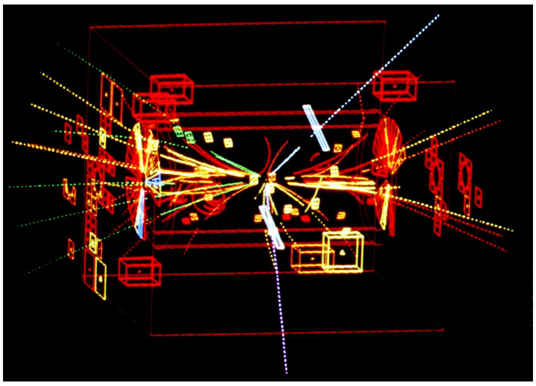
CERN Beschleuniger
(nicht maßstabsgerecht)



Erstes $W^\pm$ Ereignis [1]



Erstes Z^0 Ereignis [2]



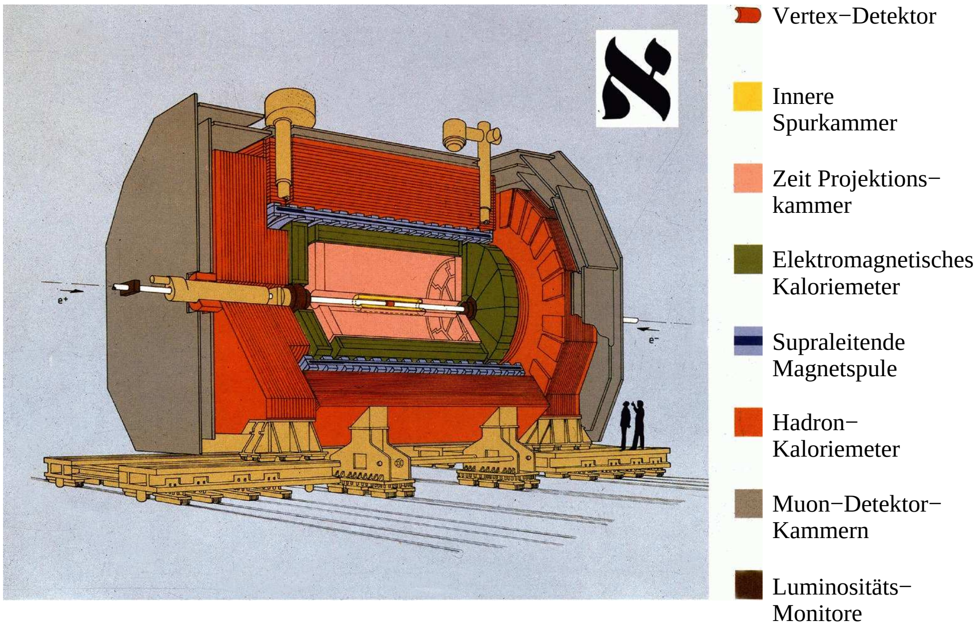
$$m_{W^\pm} = (81 \pm 5)\mathrm{GeV} \qquad [1]$$

$$m_{Z^0} = (95.2 \pm 2.5)\mathrm{GeV} \qquad [2]$$

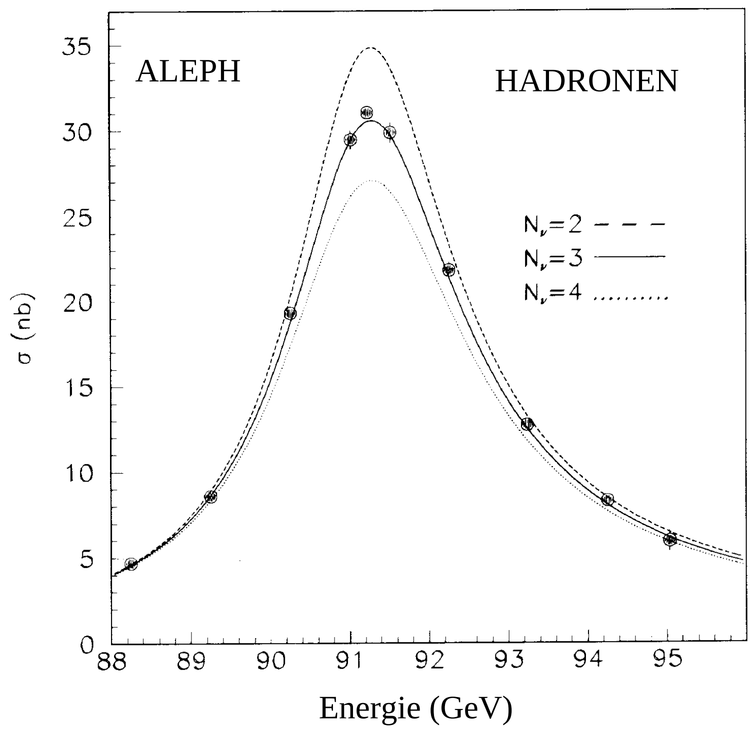
[1] G. Arinson, C. Rubbia, S. Van der Meer und andere (UA1 Kollaboration), *Experimental Observation of Isolated Large Transverse Energy Electrons with Associated Missing Energy at* $\sqrt{s} = 540 GeV$, Phys. Lett. **122B** (1983) 103-116

[2] G. Arinson, C. Rubbia und andere (UA1 Kollaboration), *Experimental Observation of Lepton Pairs of Invariant Mass around 95GeV/c^2 at the CERN SPS Collider*, Phys. Lett. **126B** (1983) 398-410

ALEPH Detektor



Z^0 Zerfallsbreite



Streuquerschnitt für $e^+e^- \to$ Hadronen als Funktion der Schwerpunktenergie. Linien zeigen die Vorhersage des Standard-Modells für $N_\nu = 2$, 3 und 4 Neutrino-Generationen.

D. Decamp und andere (ALEPH Kollaboration), *Measurement of Electroweak Parameters from Z Decays into Fermion Pairs*, Z. Phys. **C48** (1990) 365-391