

Deep Inelastic Lepton-Nucleon Scattering and Heavy Ion Experiments at the CERN SPS

Report of Contributions

Contribution ID: 0

Type: **not specified**

Deep Inelastic Lepton-Nucleon Scattering Experiments at the CERN SPS: 1977-1985

Monday 8 September 2014 16:00 (1 hour)

Abstract

Several deep inelastic scattering experiments using neutrino and muon beams were done at the SPS during the period 1977 to 1985. The experiments, their physics results and the importance of these early tests of the Standard Model will be described.

Biography

Born 1944 in Germany.

1973, PhD in experimental particle physics, Hamburg University.

From 1976, at CERN, fellow at the neutrino experiment CDHS.

1980-83, at SLAC, e+e- physics with Mark II at the PEP ring.

1983, back at CERN, e+e- physics with the ALEPH experiment at LEP.

2001-2005, EP Division Leader / PH Dept. Head.

Since 2006, work on the conceptual design of a detector for a future CLIC e+e- collider.

Since 2010, retired.

Presenter: SCHLATTER, Wolf-Dieter (CERN)

Contribution ID: 1

Type: **not specified**

Heavy Ion Physics at the CERN SPS: Roots 1974-1984 and Key Results

Monday 8 September 2014 17:00 (1 hour)

Abstract

Two communities, Nuclear and Particle Physics, had to come together to open up a new field at the CERN SPS in the early eighties, bringing CERN to the forefront worldwide until the start of RHIC in 2000. I will discuss the period before that, including the basic new ideas on parton deconfinement, key workshops, alternative accelerator options in the LBL-GSI-CERN triangle, and the final convergence of the three labs on the SPS, sacrificing any home future in this field for the first two. In 1984, 5 major experiments were approved for initially O16 and S32 beams at the SPS, with an unprecedented reuse of existing experimental equipment. Subsequent evolution followed thanks to intense learning processes, leading to a second generation of much improved or completely new experiments together with Pb beams starting in 1994.

I will summarise the key results and their (then still cautious) interpretation as of 2000. They were used as an input to a Press Conference at CERN, announcing the detection of a 'new state of matter' just before the start-up of RHIC. Fortunately, a new experiment a few years later unambiguously confirmed that the Quark Gluon Plasma had indeed been formed already at SPS energies.

Biography

Born 1936 in Germany. Studied Physics at TU Muenchen and ETH Zuerich. PhD 1964 at TU Munich (H.Meier-Leibnitz). NRC Fellow and Postdoc 1965-1968 at AECL in Chalk River, Canada. Habilitation and Associate Professor 1969-1973 at LMU Muenchen. Full Professor since 1973 at Universität Heidelberg. Since 1983 main research at CERN.

Member of R807/808 for the last year of ISR running. Member of the Heavy Ion Experiments NA34/2 (Spokesperson), NA45 (Spokesperson) and NA60. Scientific Director of GSI Darmstadt 1992-1999. Publications in Atomic, Nuclear, High-Energy Physics and Brain Research. Since 2000 Member of the Heidelberg Academy of Science. Since 2004 Emeritus.

Presenter: SPECHT, Hans (Ruprecht-Karls-Universitaet Heidelberg (DE))