

Tau lineup. At this year's workshop on tau lepton physics, the second in the series, and hosted by Ohio State University, tau pioneer Martin Perl is seen with workshop chairman K.K. Gan (left) and Michel Davier, one of the chairmen of the first workshop, held in Orsay, France, in 1990.

At the workshop it also emerged that a large amount of information on the scintillation properties of several materials and ions already has been compiled. In particular, cerium compounds can offer advantages when fast scintillation (some 20 ns) is needed. For ultrafast (nanosecond) scintillation, only crystals exhibiting special 'crossover' transitions can be considered, with the drawback of emitting in the vacuum UV. Similar expertise was gathered from extensive work in solid state chemistry and crystalline defects.

The Chamonix meeting was organized jointly by CERN, the French CNRS and the Italian INFN.



Tau leptons

Once an oddity, tau leptons are now being mass produced at electron-positron colliders, and tau physics is becoming daily life. This was reflected at the Second Workshop on Tau Lepton Physics, held at Ohio State University, September 8-11. This workshop was the sequel to the successful workshop organized by Michel Davier and Bernard Jean-Marie at Orsay in 1990.

The tau lepton, heavy cousin of the electron and the muon, was discovered in 1975 by Martin Perl and collaborators using the SLAC-LBL Spectrometer (Mark I) at the SPEAR electron-positron collider at SLAC, Stanford. This unexpected discovery broke the symmetry between quarks and leptons. This symmetry was partially restored with the discovery of the fifth quark (bottom) at Fermilab in 1977. Almost two decades after its discovery, the tau is giving interesting and vital results.

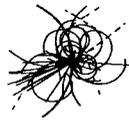
The workshop opened with a talk on new measurements of the tau mass. At the Beijing electron-positron collider, seven events were observed in a scan of the tau production threshold yielding a new measurement of the tau mass (July, page 13) an order of magnitude more precise than the previous measurement by DELCO (SPEAR) in 1978. In addition, ARGUS (DORIS) and CLEO (CESR) have reported new measurements of the mass using high statistics data samples collected near the bottom quark production threshold that are consistent with, albeit with larger errors, the Beijing result.

The meeting then focused on the tau lifetime and leptonic branching ratios, where the precision of these measurements (CLEO of the branching ratio into electron, ALEPH and OPAL of the lifetime) is now better than 2%. Together with the tau mass measurement, these measurements provide a stringent test of electron-muon-tau democracy (lepton universality). However despite the improve-

ment in the precision of the measurements, there is still a nagging discrepancy.

Tau decays with one or three charged hadrons in the final states were the subject of two full sessions. New measurements from ARGUS (DESY, Hamburg), CLEO (CESR, Cornell), and the LEP experiments at CERN were impressive, some rivaling the old world averages in their precision. CLEO reported the observation of a new decay mode in which the tau decays into three charge pions and two neutral pions with a surprisingly large rate. A new method for measuring the tau neutrino mass based on this large decay rate was presented.

Tau physics could also help look beyond the confines of today's Standard Model. Jose Valle of Valencia emphasized that the search for exotic decay modes is a probe of the tau neutrino mass. In the session on tau neutrino mass and cosmology, ARGUS presented a new upper limit of 31 MeV of the tau neutrino mass.



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One position requires several years' experience in the usage, maintenance porting of CERN lib codes. The candidate will be responsible for the maintenance of the codes on the SSCL Unix platforms and distribution to the SDC and GEM collaborations. The candidate will provide the primary contact between PRD Computing and CERN.

Other positions available require similar experience levels but will be in direct support of either GEM or SDC collaborations computing efforts. Primary efforts currently involve GEANT simulations in preparation of the Technical Design Reports for the detectors. Code maintenance, development, porting and distribution will be required to support these efforts.

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LECTURESHIP IN HIGH ENERGY PHYSICS

Applications are invited for the post of lecturer in High Energy Physics at the Blackett Laboratory, Imperial College, London.

The group has active experimental programmes with the ALEPH experiment at LEP, the ZEUS experiment at HERA, the WA92 experiment at the CERN SPS and a non-accelerator experiment to search for Dark matter. It is also one of the leading proponents of the emerging CMS collaboration, planning an experiment at the LHC.

The group has a strong tradition of detector development and is, in particular, a world centre for the development of silicon-based micro detectors. Other activities have involved the construction of drift chambers and fast processors, and the development of detectors based on noble liquid calorimetry and scintillating fibres.

Following a successful 3 year probationary period this will become a tenured teaching position.

Salary in the range £12,860 - £23,739 plus £2,134 London allowance.

Applications comprising a curriculum vitae, a list of publications and the names and addresses of three referees should be sent, by Friday 15th January 1993, to: Professor P.J. Dornan, Imperial College of Science, Technology and Medicine, Blackett Laboratory, Prince Consort Road, London SW7 2BZ

People and things

At CERN on 6 October to open the 'Britain at CERN' trade exhibition, UK Under-Secretary for Trade and Industry Edward Leigh admires the CERN VIP visitors book with CERN Director for Technical Tasks Hans Hoffmann and Wendy Korda.

Mike Turner of Fermilab/Chicago argued that excluding tau neutrino masses down 25 MeV is crucial since a tau neutrino mass in the 0.5 to 25 MeV region is forbidden in many theories. The 25 MeV mass upper limit is clearly within experimental reach in the near future.

One highlight was the examination of the so-called 1-prong decay problem, where a few percent of these decays may be unaccounted for. There are two ways of looking at the data: one is to pick the most precise measurement of each decay mode and the other is to use the world average of all measurements. Using the former method and assuming the most precise measurement is the best, there is no significant problem. With the latter method, there is a discrepancy. As emphasized by Michel Davier in his summary talk, there are significant differences between some of the measurements of the branching ratios, which suggests problems in some of the experiments. Reconciliation means more precise measurements, both by the reconstruction of the decays and by a global analysis of all decays in a single experiment. The next tau workshop will tell more.

The Tau Workshop was organized by K.K. Gan and his colleagues at OSU.

From K.K. Gan

INFN President

Leading Italian theorist Luciano Maiani of Rome has been designated as next President of the Italian Istituto Nazionale di Fisica Nucleare (INFN), for three years, to succeed Nicola Cabibbo.



Emilio Picasso tribute

Friends and colleagues of Emilio Picasso attended a special event at CERN on 25 September to pay tribute to his 29 years of contributions to CERN's success. Recalling Picasso's vital role in the famous 'g-2' precision experiments to measure the magnetic moment of the muon, Francis Farley stressed Picasso's enthusiasm for physics and people, and his uncanny ability to motivate. From 1972-77 Picasso was leader of what became known as Experimental Physics Division. Covering this period, Jack Steinberger had collected many colourful Picasso tributes ('a series of sunny days'). In 1980 came the fateful call to be project leader for the LEP project, the largest accelerator ever built, using existing CERN finance and manpower, and close to a range of mountains. Gus Voss of DESY described how new teams were carved out of the existing CERN infrastructure and how, after an inevitably bumpy ride, the machine delivered on time. In recent years this remarkable accomplish-

ment has rightly brought Picasso international honours and recognition. Finally Luigi Radicati di Brozolo covered Picasso's long interest in experimental searches for gravitational waves. Picasso's talents are now invested in a new career as director of Pisa's Scuola Normale Superiore.

New director at Legnaro

Massimo Nigro has been appointed by the Italian National Institute of Nuclear Physics as director of the Legnaro National Laboratory for the next three years, replacing Piero Dal Piaz, who has been elected Rector of the University of Ferrara.

The Legnaro National Laboratory, near Padua, is the main Italian Laboratory for nuclear physics. Its principal facilities are a tandem Van de Graaff accelerator and a superconducting linac for heavy ion beams (ALPI accelerator).

Massimo Nigro is Professor of Physics at Padua and his main research interests are in the field of experimental elementary particles, us-