

It is of great practical importance to know what is the precision of the various QED radiative corrections for LEP measurements (in the Z line shape, luminosity, asymmetries, etc.). There is no ready answer to this question. The honest solution requires higher order calculation. I shall present a variety of numerical (Monte Carlo) and analytical results indicating that Yennie-Frautchi-Suura (YFS) type exponentiation makes perturbative expansion very convergent. In particular I shall demonstrate a strong indication that the YFS exponentiation is better than the Kuraiev-Fadin prescription used currently by (practically) all authors. The very convincing argument comes from calculating (analytically and with MC) the third order correction to electron structure functions and the total cross-section. On the other hand I compare the first and second order numerical results from the full scale YFS type Monte Carlo (YFS3 MC program including the initial and final state Bremsstrahlung) and I again find the fast convergence phenomenon. The relevant MC results are nicely parametrized with the simple semi-analytical formulas. The presented MC and (semi-) analytical results come from the exponentiation and leading-log calculations (and the mixtures of both). I shall therefore explain the basic difference between these two techniques.

Monday 7 May

EP SEMINAR

at 16.30 – Auditorium

CASA : a detector for Gamma Ray Astronomy

by Leslie ROSENBERG / Univ. of Chicago

The Chicago Air Shower Array (CASA) is a large-area above-ground scintillator array designed to study PeV sources. The detector consists of more than 1000 subdetectors distributed on a 15m square grid. Half of the detector is built and taking data. This detector, coupled with a companion large underground muon detector, constitutes a powerful instrument for the study of point sources. We report our current status, and give a very preliminary peek at data.

Tuesday 8 May

SPECIAL PS SEMINAR

at 14.30 hrs – PS Auditorium

Pulse power applications

by Rolf DETKLEFSEN / Maxwell Laboratories

Tuesday 8 May*

CN SEMINAR

at 16.00 hrs – CN Auditorium
bldg 31, 3-005

Does Santa Fe lie at the end of the trail?

by D.O. WILLIAMS / CERN-CN

* Please note unusual day!

Wednesday 9 May

PS SEMINARS

at 11.00 hrs – PS Auditorium
bldg 6, 2-024

*Please note : two separate sessions,
half an hour each*

Stochastic cooling progress at FNAL

by Dave MC GINNIS / Fermilab

Fermilab booster – present intensity limits and upcoming improvements

by Vinod BHARADWAJ / Fermilab

Wednesday 9 May

COMPUTER SEMINAR

at 16.00 hrs – Auditorium

Major developments in telecommunications technology and its application

by A. M. RUTKOWSKI / International Telecommunications Union

Jeudi 10 mai

PRESENTATION TECHNIQUE

à 08.30 h – Amphithéâtre LEP
bât. 30, 7e étage

*Microcos SA (CH) présente les logiciels LEX (UK)
la bureautique intégrée, de MS-DOS à VMS*

TRAINING AND EDUCATION ENSEIGNEMENT

ACADEMIC TRAINING

Tél. 2844-3364

30 April, 3 & 4 May

11.00 to 12.00 hrs – Auditorium

Is the Universe top-heavy?

by J. ELLIS / CERN-TH

10 & 11 May

11.00 to 12.00 hrs – Auditorium

Parallel computers : architectures, models and software

by I.M. WILLERS / CERN-CN

The subject matter of this course is divided into three parts :

1. The first part covers the different parallel architectures and their classification. It examines Flynn's taxonomy which classifies architectures according to the flow of instructions and data. It then proceeds to a classification based on the three divisions : synchronous architectures, multiple instruction flow multiple data access machines, and hybrids based on multiple and single instruction flow.

- 2. The second part examines architectural models and their relation to hardware and software implementations. It will cover shared and distributed memory, semaphores, monitors and styles of message passing based on different addressing capabilities.*
- 3. The final section will look at three practical examples of parallel system and will examine their relationships to the architectures and models discussed above. The three examples are : the transputer with the OCCAM language, Chorus – a distributed message passing operating system, and Linda – a general programming abstraction mechanism for parallel programming.*

INFORMATICS TUTORIALS 1990

An introduction to X-window programming

When Monday 28 May to Friday 1 June

Venue Building 572, Room 25 (Technical Training) 09.00 -12.00 hrs

Subject The object of the course is to teach the basics of the X-window programming environment, which is being used more and more on the workstations in use at CERN and elsewhere.

The course will consist of a tutorial session in the morning with a demonstration on a workstation in the classroom. During the afternoon the participants will have assignments to fulfil on their own workstation in their office.

The first part of the course will be devoted to the underlying Xlib library and its structure, since without a clear knowledge of the underlying basic structure of the X window system the higher levels are difficult to understand. Building upon the first part, the next subject will be the Toolkit library, while the last part will explain the Motif widgets and introduce the Motif user interface definition language. A colour editor application will be built up step by step using the concepts learned during the course.

This course is intended for people, who need an introduction to the X window system and who are going to use it actively in the near future to develop applications.

Registration For practical reasons the number of participants will be limited to 20. If you want to attend this series you should discuss the matter with your direct supervisor, and if he/she agrees you should send a memo specifying that you want to attend, cosigned by your supervisor to the TECHNICAL TRAINING SECRETARIAT (PE DIVISION), accompanied by a TID for 200 CHF.

Material All participants will receive the X11R4 documentation for Xlib, Xt and Xaw as well as a Motif set of documents. Also further tutorial material from the X11R3 tapes will be made available to the students.

Requirements A good working knowledge of the C programming language is essential. Moreover all participants must have access to a personal workstation running X-windows for the afternoon exercises.

Lecturers Julian Lewis & Ulrich Raich are both members of the PS Controls group and have been working with the X-window system for over a year. They taught a similar course at the end of last year.