PHYSICS MASTERCLASS 2004

Measuring the number of colours from W^+W^- events at LEP

- Notice the login information on the sticker attached to this document.
- Login using the username and password provided therein.
- Sign the ISS form that will be circulated by the staff: only one signature per login is required.
- Go to http://www.hep.phys.soton.ac.uk/masterclass2004/home.html.
- Follow the link
  'Identification of W^+W^- events: Like two Z's on top of each other'.
- Train yourself for, say, 15 minutes by studying Events 21–30.
- Follow the link
  'click here to proceed to the next part of the programme',
  which is the "Measuring the number of colours" challenge.
- Follow the link
  'W event sample'.
- Start the challenge ! Note down how many leptonic (l), mixed (m) and four-jet (f) events you identify in total, see the sheet provided: 'Analysis of W decays: counting the number of colours'.
- If you are in the Physics Computer Room, analyse Events 1–120. If you are in the Geography Computer Room, analyse Events 121–287. It does not matter if you cannot go through them all, do as many as you can.
- At the end of the challenge, write down in the sheet provided your three results for n_{colour} using the values for l, m and f that you have deduced. (You can find a calculator from the menu of your Window session.)
- If you have completed your challenge, feel free to browse the links to the Masterclass 2004 page: you will find exciting information about the world of particle physics !
- Hand in your answers to the demonstrators before leaving the Computer Room.