



RHUL – PHYSICS DEPARTMENT

PARTICLE DETECTORS & ACCELERATORS
PH2520

LECTURE NOTES

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Contents

1	Introduction	6
1.1	Particle Physics overview	6
1.2	Modern colliders...	9
1.2.1	The need for high energy collisions	9
1.2.2	Collider basics	10
1.2.3	The LEP collider	12
1.2.4	Electron vs. Hadron machines	13
1.2.5	The TeVatron	14
1.2.6	The Large Hadron Collider	14
1.3	...and detectors	14
1.3.1	Some typical events	15
1.3.2	Main detector system requirements	18
1.3.3	Typical particle detector system	20
1.4	Examples of high-energy physics events	22
1.5	Relativistic kinematics	24
I	Detectors	27
2	Interaction of radiation with matter	28
2.1	Interactions of heavy charged particles	28
2.1.1	Ionization energy loss	29
2.2	Interactions of electrons and positrons	34
2.3	Interactions of photons	36
2.3.1	Photoelectric effect	37
2.3.2	Compton scattering	39
2.3.3	Electron-positron pair production	39
2.3.4	Linear attenuation coefficient	40
2.4	Electron-photon showers	42
2.4.1	The Simple Shower model	43
2.5	Interactions of neutrons and other hadrons	45
3	Detectors for ionization, position and momentum measurement	48
3.1	The ionization chamber	48
3.2	The proportional counter	49
3.3	Gaseous tracking devices	53
3.3.1	Multi-Wire Proportional Chamber (MWPC)	53
3.3.2	Drift Chamber	55

3.3.3	Time Projection Chamber (TPC)	59
3.4	Semiconductor tracking devices	60
3.5	Momentum measurement	64
3.5.1	Solenoids	66
4	Detectors for energy measurement: calorimeters	68
4.1	Electromagnetic calorimeters	68
4.1.1	Energy resolution	70
4.2	Hadronic calorimeters	71
II	Accelerators	73
5	Introduction	74
5.1	Historical overview of accelerator development	74
5.1.1	Electrostatic accelerators	74
5.1.2	Linear Accelerator	75
5.1.3	Cyclotron	76
5.1.4	Synchrotron	78
5.2	Phase Stability	79
5.3	Electrons – Synchrotron radiation	81
5.4	Optics – Bending and Focusing	82
5.4.1	Bending – magnetic dipoles	83
5.4.2	Focusing – magnetic quadrupoles	84
5.5	Phase space diagram	86
5.6	Alternating gradient focusing	87
5.7	Transverse motion equations	88

Preface

These notes are intended for the second year undergraduate course “Particle Detectors and Accelerators”. The course is an essential part of the “BSc in Physics with Particle Physics” and aims to introduce the basic principles underlying particle detection and the acceleration of particles to the very highest energies. The emphasis is almost exclusively on the tools for carrying out experiments in particle physics, rather than on any of the many other uses (medical, industrial, etc.) that particle accelerators and detectors can be put to.

There are many excellent books on the physics behind particle detection techniques and the physics of particle accelerators. I have relied heavily on those listed in the bibliography section to prepare this course. However, these books are in general aimed at a more advanced audience (typically fourth year MSci, or even postgraduate). In the present notes I have therefore attempted to gather together, from the many sources, a coherent overview of the material of this course. My hope is that this will be useful for the student.

This first draft of the notes is still incomplete, and is certainly going to have to expand and evolve considerably in the coming years. I welcome comments, suggestions and corrections.

Pedro Teixeira-Dias,
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