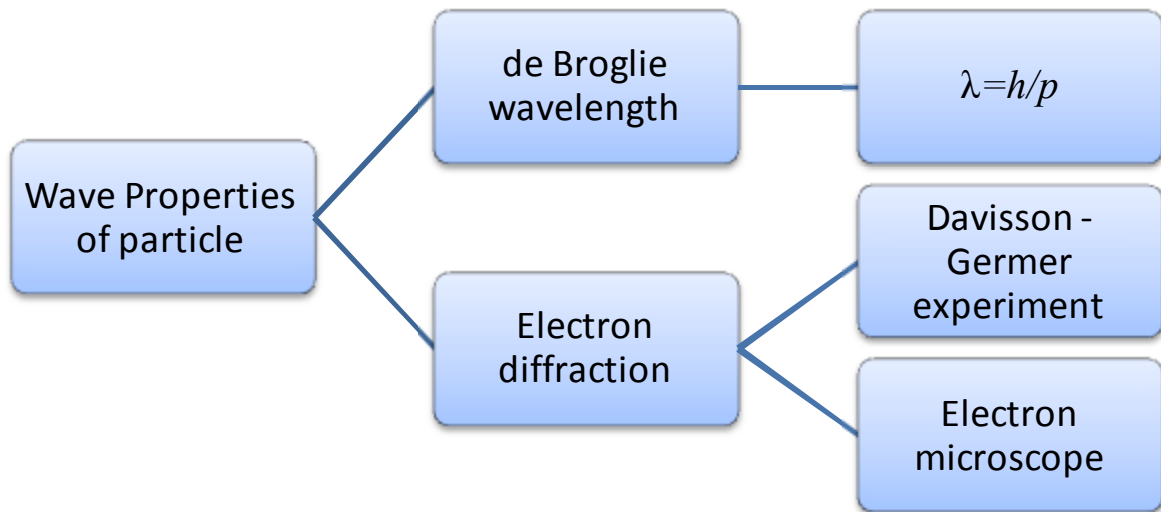


CHAPTER 26 WAVE PROPERTIES OF PARTICLE



INTRODUCTION

This chapter will introduce the wave properties of particle. It is known that a particle is one with mass and velocity. However, in certain cases, for example an electron, besides having mass and velocity, it also behaves like wave. Electrons in electron microscopy probe are used as 'light source' and show diffraction effect just like light.

IMPORTANT DEFINITIONS, CONCEPTS AND LAWS

Diffraction

A phenomena where light with a wavelength comparable to or larger than the width of a slit spreads out in all forward directions upon passing through the slit.

Electron microscopy

Advanced microscopy technique with different working principle than the optical microscope. Electrons were used as 'light source' for better zoom in and focus up to nanometer range. Two basic techniques in electron microscopy are *Transmission Electron Microscopy (T.E.M)* and *Scanning Electron Microscopy (S.E.M)*.

Photon

A photon is a discrete amount of energy for electromagnetic radiation with certain frequency.