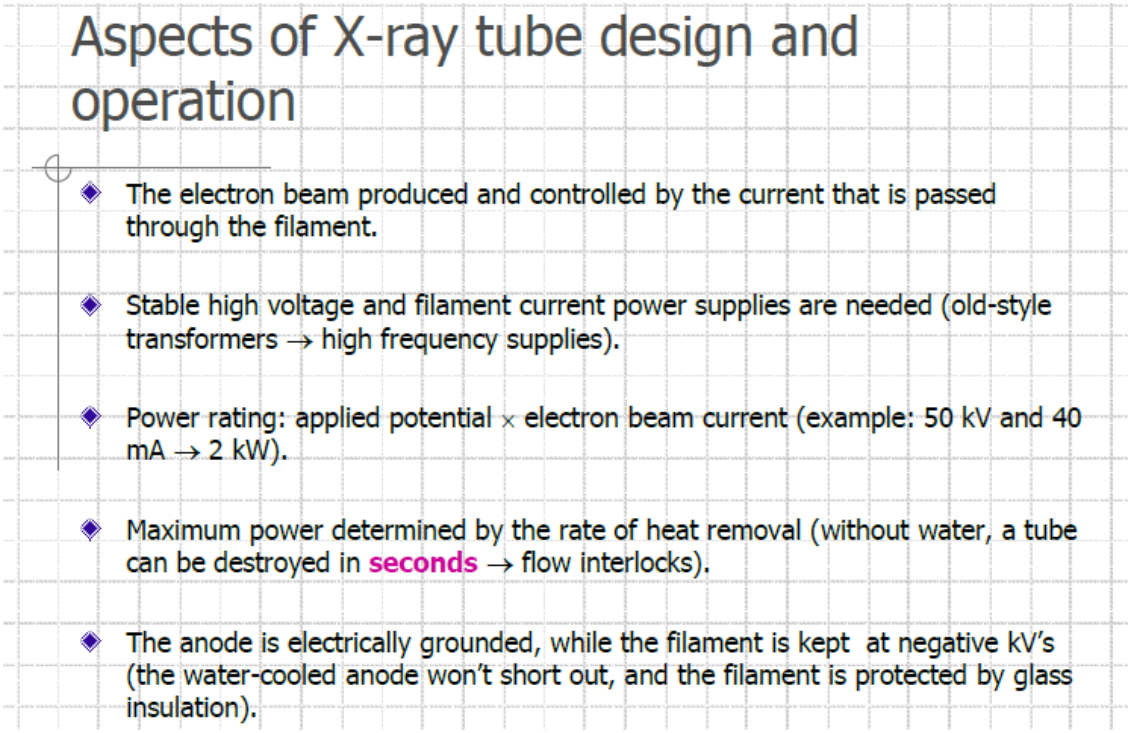

Detection of x-ray

1)Photographic film: is affected by x-ray in much the same way as by visible light ,and film is the most widely used means of recording diffracted x-rays beams. However, the emulsion on ordinary film is too thin to absorb much of the incident x-radiation ,and only absorbed x-rays Can be effective with rather thick layers of emulsion on both sides in order to increase the total absorption . the grain size is also made large for the same purpose . this has the unfortunate consequence that x-ray films are grainy , do not resolve fine detail , and cannot stand much enlargement.

2)fluorescent screen: are made of a thin layer of Zinc sulfide containing a trace of (Ni) mounted on cardboard backing .under the action of x-rays , this compound fluoresces in the visible region , i.e. emits visible light , in this case yellow light.

3)Ionization devices : measure the intensity of x-ray beams by the amount of ionization they produce in a gas . x-ray quanta can cause ionization

just as high –speed electrons can namely , by knocking an electron out of gas molecule and leaving behind a positive ion this phenomenon can be made this basis of intensity measurements by passing the x-ray beam through a chamber containing a suitable gas and two electrodes having a constant potential difference between them.

The electrons are attracted to the anode and the positive ions to the cathode and a current is thus produced in an external circuit . in the ionization chamber, this current is constant for constant x-ray intensity , and the magnitude of the current is a measure of the x-ray intensity.