

- 7 Fig. 7.1 shows a microwave transmitter aimed at a metal plate.

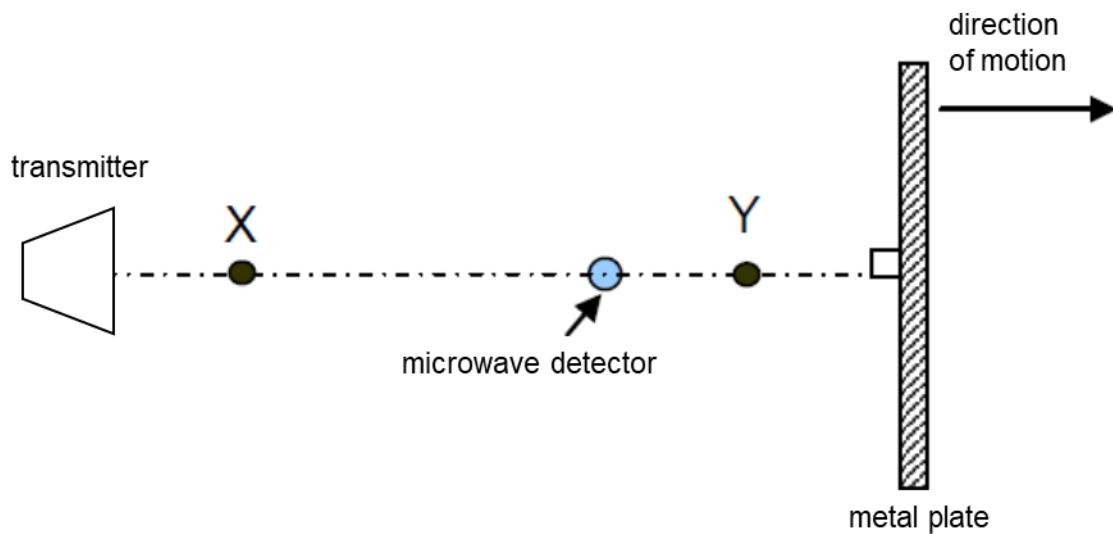


Fig. 7.1

- (a) A small detector, moved along the line XY, travels 16 cm in moving from the first to the 12th consecutive nodal position.

Show that the microwaves emitted have a frequency of 10 GHz.

[3]

- (b) The detector is now at position Y and the metal plate is moved to the right, along the direction XY at a constant speed.

State and explain what is observed at the detector.

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[2]