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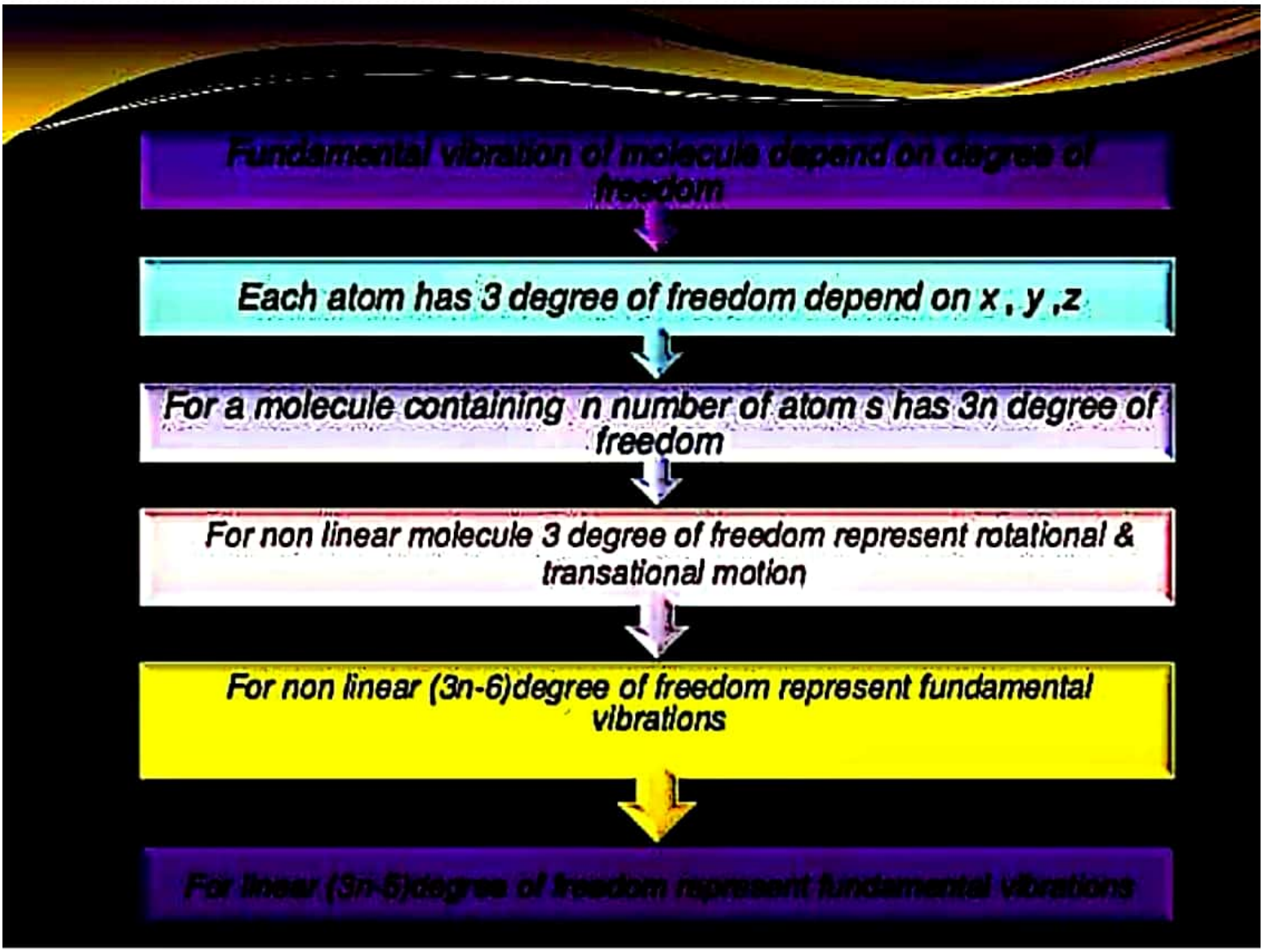

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All vibrational changes don't appear as band

Only those vibrational changes that result in change in dipole movement appear as band

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HOOKES LAW

- It gives the relation between frequency of oscillation , atomic mass , force constant of the bond .
- Thus vibrational frequency is

$$= \frac{1}{2} \pi c \sqrt{f/(MxMy)/(Mx+My)}$$

- C = velocity of light
- F = force constant
- Mx= mass of atom x
- My = mass of atom y

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- Since force constant measures the strength of bond, value of f is

FOR SINGLE BOND	• 5×10^5 dynes/cm
FOR DOUBLE BOND	• 10×10^5 dynes /cm
FOR TRIPLE BOND	• 15×10^5 dynes/cm

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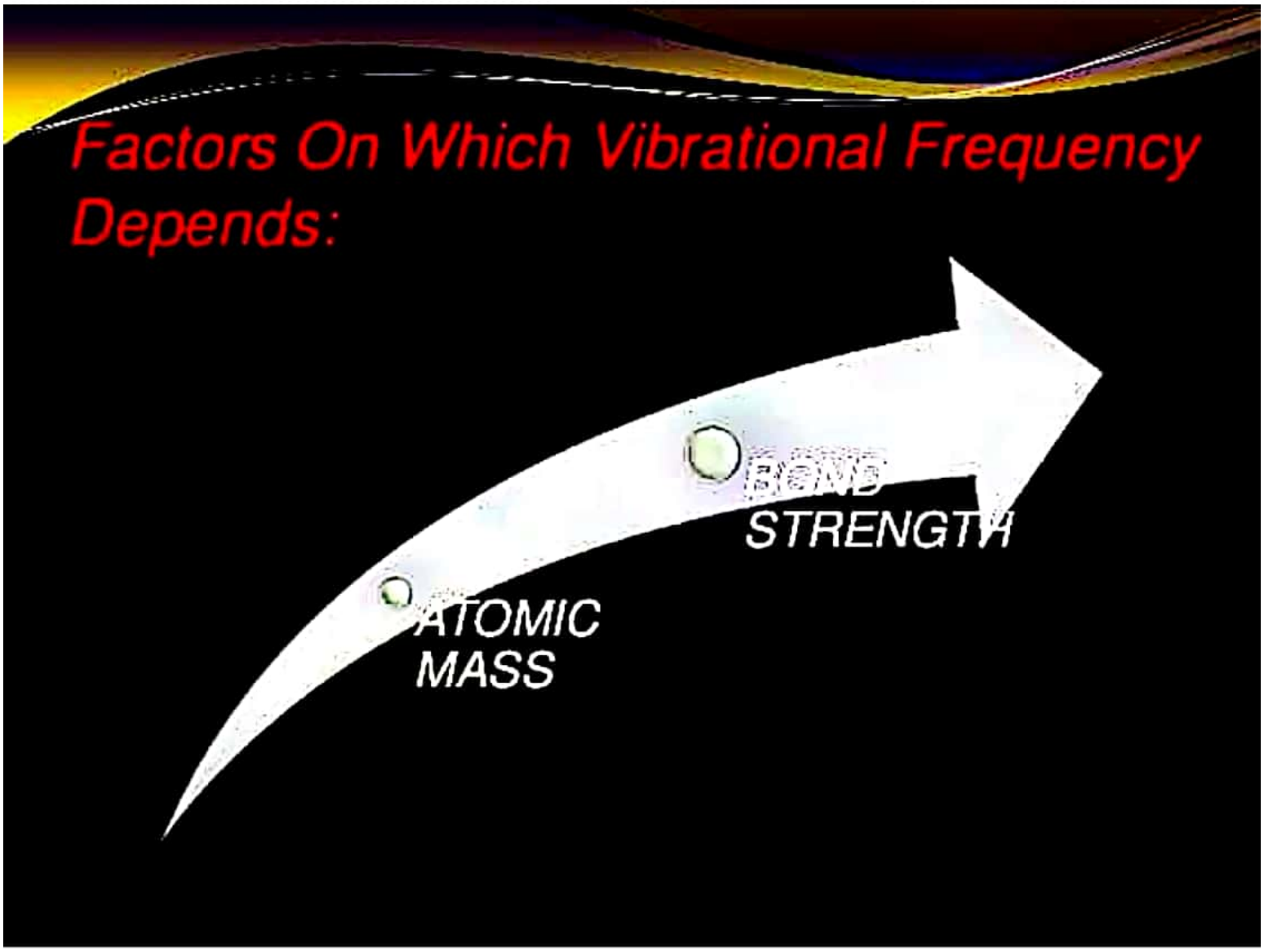

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