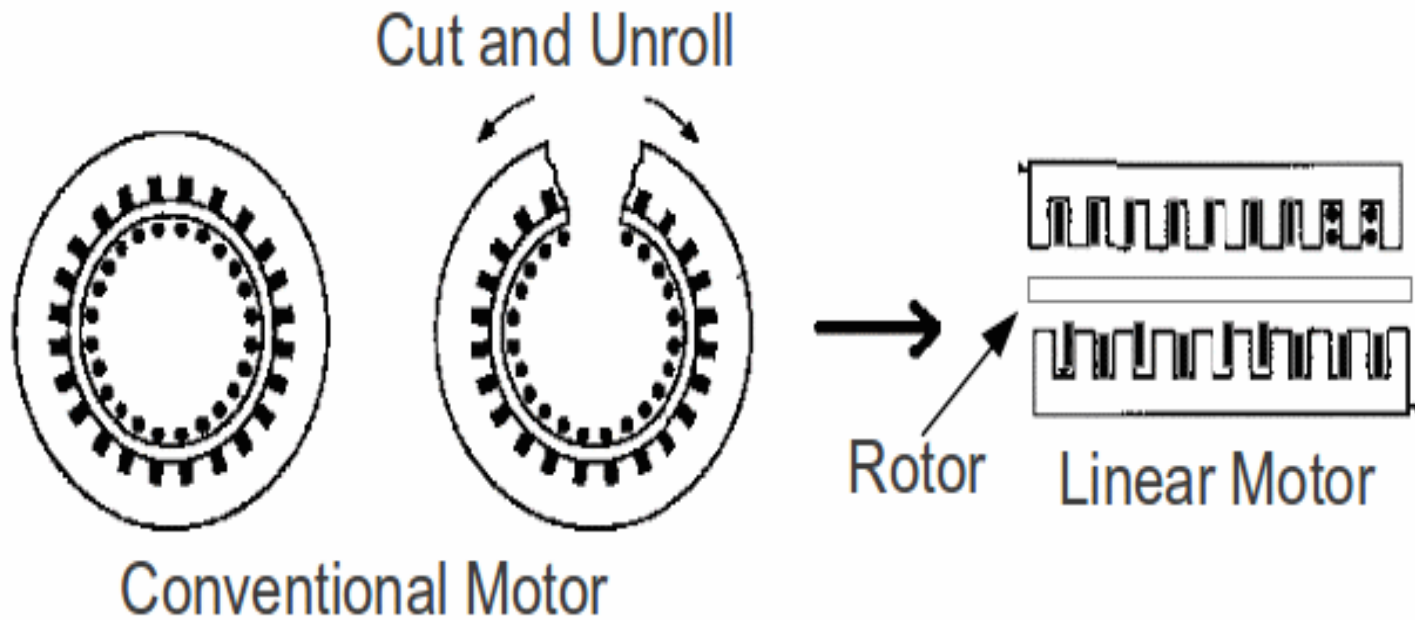


# **Special Electrical Machines**

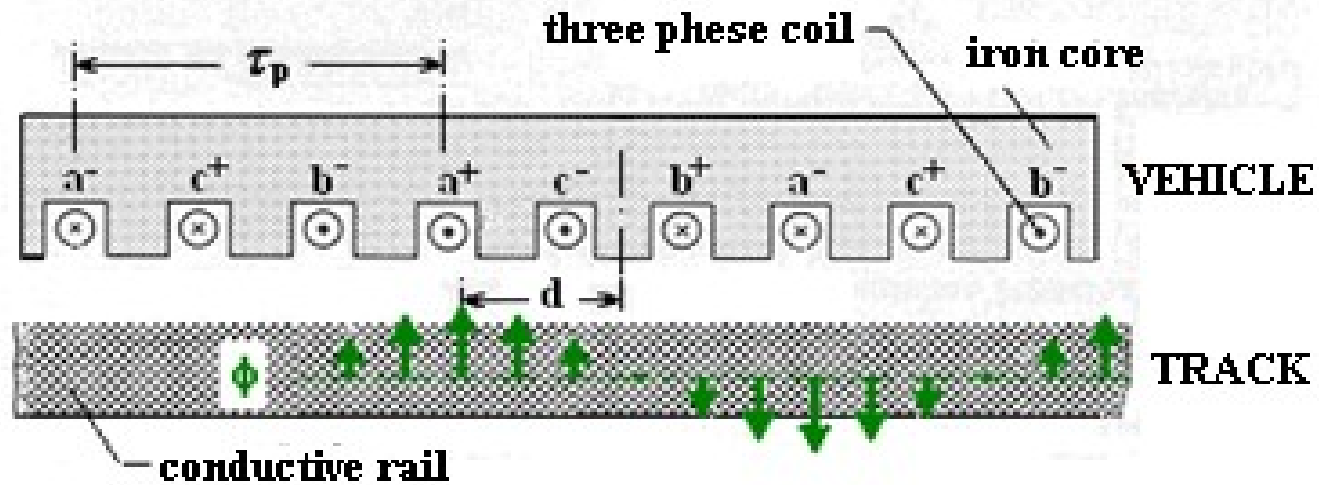
# Linear Induction Motors



# Working

- At linear motor the *primary part* with active coil is equivalent to the stator of the conventional motor, while the squirrel cage rotor is equivalent to the solid rail or tape shape passive *secondary part*. Basically there are two possible solutions of the linear induction motor driven vehicles:
  - short primary part linear motor drive, when the active coil of the motor is on the vehicle with the inverter supply and the control, and the secondary part is a solid rail or tape installed along the whole track,

# Operating Principle



# Linear Force

- long primary part linear motor drive, when the active coil of the motor is installed on the track with the inverter supply
- the secondary part is on the vehicle.
- The resultant current excitation vector of the three phase coil is in a hurry to the inducted “rotor flux” of the track-rail with  $d = \vartheta(\tau_p/180^\circ)$  displacement distance that is equivalent to the  $\vartheta$  torque angle.

# Application

- Used in traction
- Indian Metro trains

**THANKS....**

Queries Please...