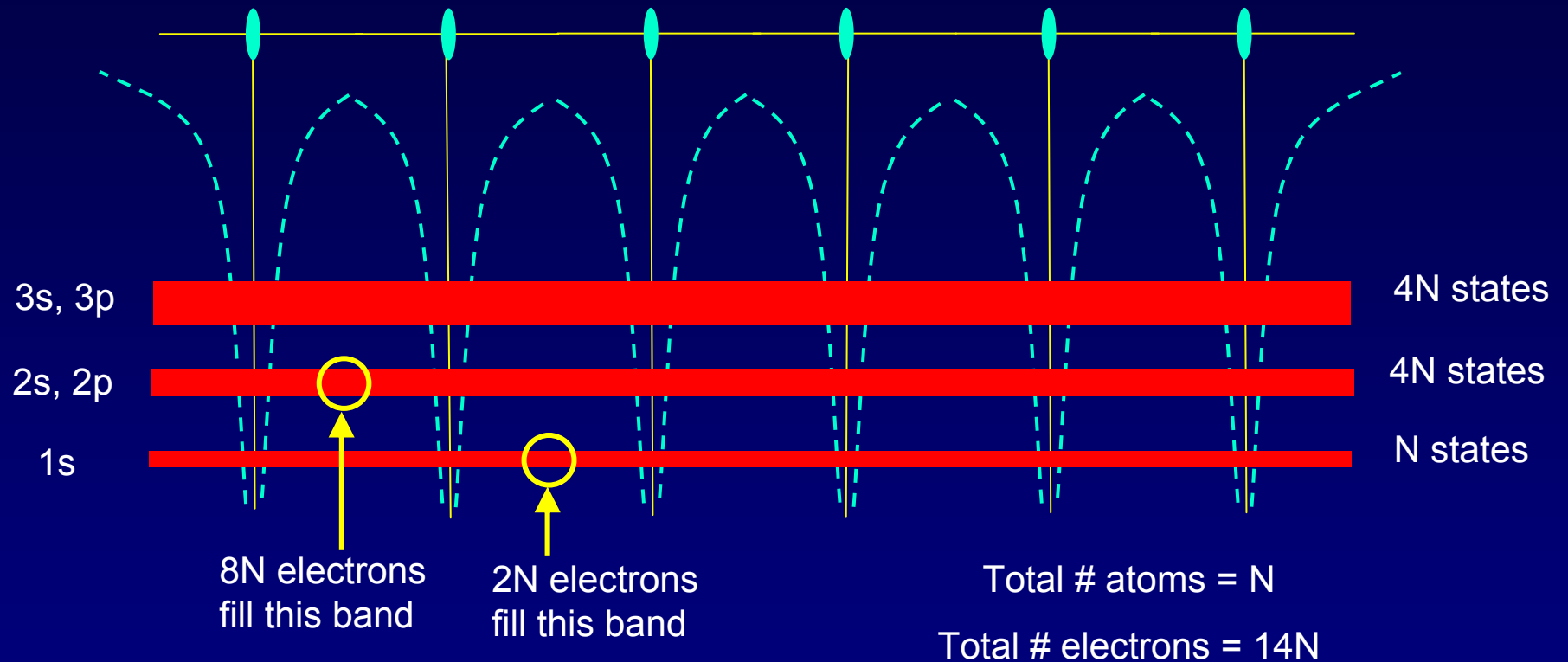
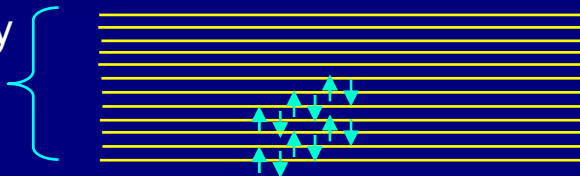


# Semiconductors

Silicon:  $Z = 14$  ( $1s^2 2s^2 2p^6 3s^2 3p^2$ )



The 3s/3p band is only half filled (4N states and 4N electrons)



Why isn't Silicon a metallic conductor, like sodium?