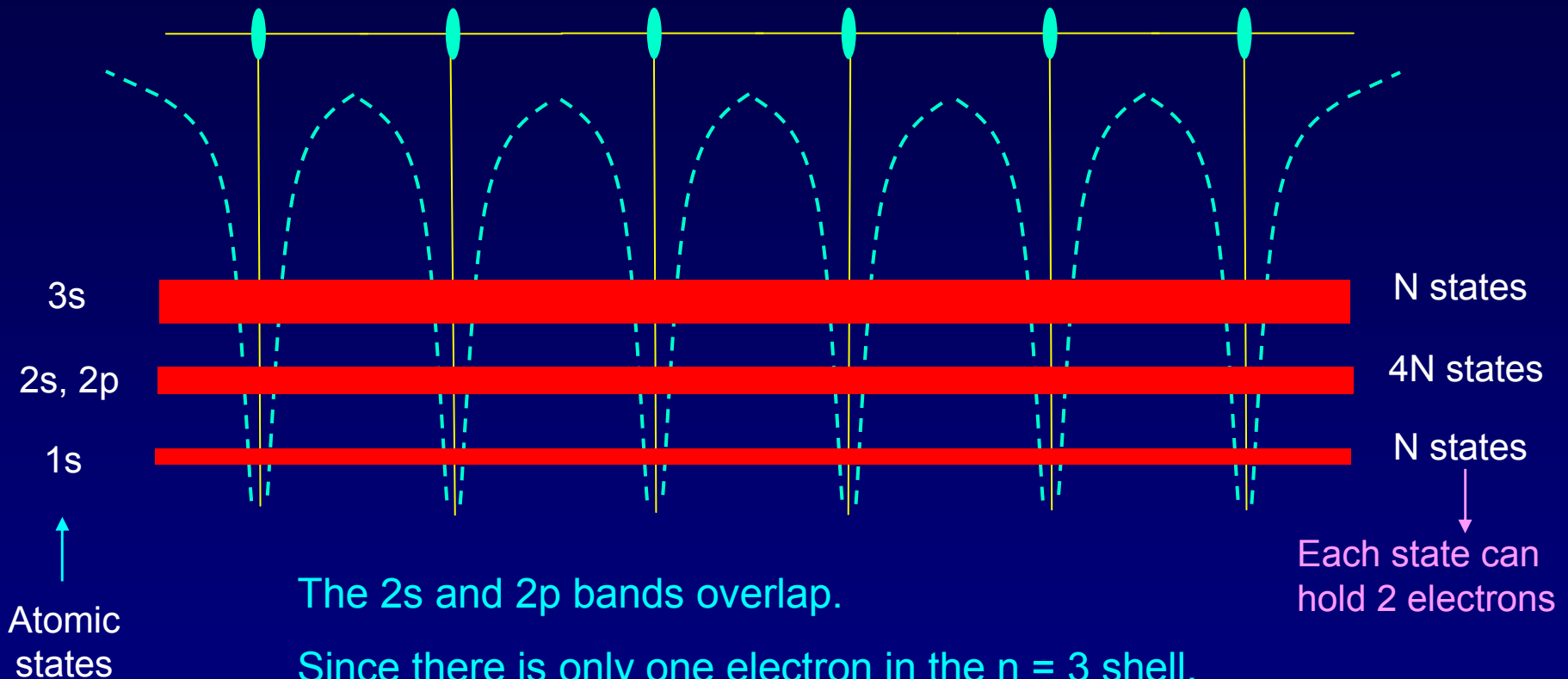


Conductivity of Metals

Sodium: $Z = 11$ ($1s^2 2s^2 2p^6 3s^1$)



The 2s and 2p bands overlap.

Since there is only one electron in the $n = 3$ shell, we don't need to consider the 3p or 3d bands, which partially overlap the 3s band.

Each state can hold 2 electrons

Fill the bands with $11N$ electrons.