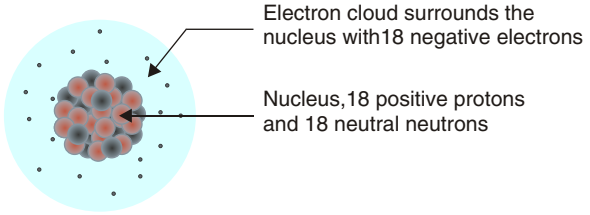
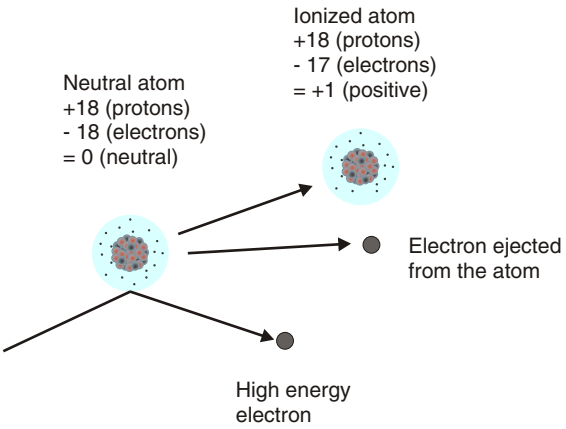
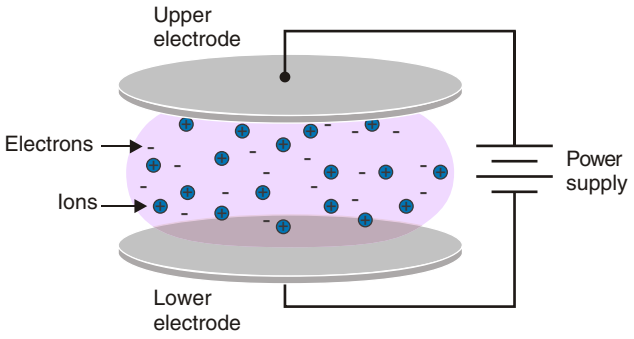
Fundamentals of Sputter deposition



Ground state atom - an atom with an equal number of negative electrons and positive protons, i.e., no net charge (Argon shown).

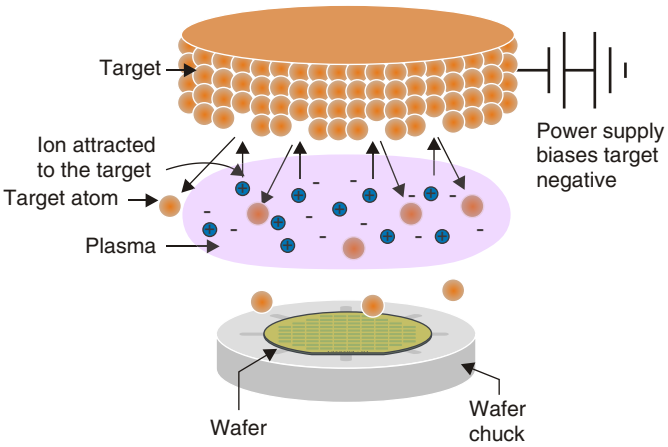
Ionization - a collision with an energetic particle causes an electron to be lost or gained by an atom resulting in an atom with a net electric charge, i.e., an ion.





Plasma - a low pressure gas where a high energy field is used to drive ionization creating a large number of ions and free electrons.

Sputter deposition - ions from a plasma are attracted towards a target made of the material to be deposited, the ions strike the target physically knocking target atoms loose, the target atoms then land on the wafer.



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Tech brief - Sputter deposition