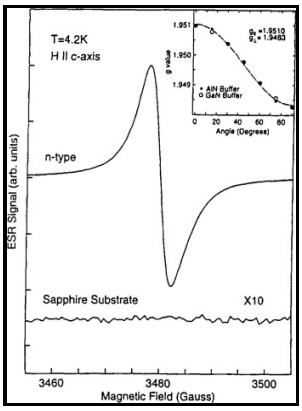
# Shallow donors in n-type semiconductors

## typescript - What is Donor in Semiconductors

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**SHALLOW DONORS AND ACCEPTORS IN SEMICONDUCTORS**

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**What is Donor in Semiconductors**

DOE Fundamentals Handbook, Volume 1 and 2. This electric field would move any mobile charge until it eliminates any charge imbalance. From the figure, one can easily see that the electron density will increase as the Fermi energy is increased.

**What is Donor in Semiconductors**

Shown are the density of states, g c E , the density per unit energy, n E , and the probability of occupancy, f E. Although some of the most accurate calculations have been done for these systems, there remain many difficulties in accurate predictions of some other properties. The N-type extrinsic semiconductor has majority carrier as electrons and hence has greater conductivity.

**What is N**

As the negatively charged electron leaves a hole, this empty space attracts other electrons.

**What is N**

Compensation mechanism by intrinsic defects.

**Shallow donor**

Shallow impurities are impurities, which require little energy - typically around the thermal energy, kT, or less - to ionize. The Fermi energy varies linearly, when plotting the density on a logarithmic scale, up to a doping density of 10 18 cm -3. A free electron is now present.

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