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Study Of Superconductivity

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Introduction: Superconductivity was discovered in 1911 by Dutch physicist Heike Kammerlingh Onnes by studying the resistivity of solid mercury at cryogenic temperatures using the recently discovered liquid helium as a refrigerant. After this discovery of superconductivity many metals and alloys had shown superconductivity when these specimen are cooled to sufficiently low temperature. Superconducting materials are very important in scientific and technological prospective. Some technological innovations benefiting from the discovery of superconductivity are

- ✓ Magnetic resonance imaging
- ✓ Sensitive magnetometer based on SQUIDS.
- ✓ Beam-steering magnets in particle accelerator.
- ✓ Microwave filters.
- ✓ Electronic power transmission cables.
- ✓ Magnetic levitation devices.

Historical Background:

In the history of superconductivity few important milestones are:

- ✓ In 1911 Dutch physicist Heike Kammerlingh Onnes by studying the resistivity of solid mercury at cryogenic temperatures using the liquid helium as a refrigerant discovered superconductivity.