

“Complementi di Fisica” ***Lecture 23***

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In these lectures

- **Contents**

- Contributions from electrons in a band to the electrical current in an external electric field
- The “hole” concept; properties:
 - Wavevector, energy, velocity, effective mass
 - equation of motion
- Insulators, conductors, semiconductors

- **Reference textbooks**

- D.A. Neamen, Semiconductor Physics and Devices, McGraw-Hill, 3rd ed., 2003, p.71-78
- Ch.Kittel, Introduction to Solid State Physics, J.Wiley & Sons, 7th ed., p.203-212 (“equations of motion, effective mass”)
- W.Ibach & H.Luth, Solid-State Physics, Springer, 3rd ed., p. 235-237 (“9.2: Currents in Band and Holes”)



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