

# Course: “Principles of radiation detection and measurement” (Caratteristiche generali dei Rivelatori)

## Bibliography

- E. Fermi, Nuclear Physics, cap. II
  - B. Rossi, High energy particles (Prentice Hall)
  - Glenn Knoll, Radiation detection and measurement (Wiley)
  - W.R.Leo, Techniques for nuclear and particle physics experiments (Springer-Verlag)
  - F.Sauli, Principles of operation of multiwire proportional chambers  
<https://cds.cern.ch/record/117989/files/CERN-77-09.pdf>
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More:

- Leroy and Rancoita, Principles of radiation interaction in matter and detection, World Scientific
- K. Kleinknecht, "Detectors for particle radiation", Cambridge University Press, second edition, 1998
- E. Segre', Nuclei and particles
- H. Spieler: Semiconductor Detector Systems, Oxford University Press, 2005
- R.C. Fernow, "Introduction to experimental particle physics", Cambridge University Press, 1986
- G. Lutz, "Semiconductor radiation detectors : device physics", Springer Verlag, 1999

## WEB resources:

- Particle properties, detectors, radiation interaction with matter  
<http://pdg.lbl.gov/>  
([http://pdg.lbl.gov/2016/tables/contents\\_tables.html](http://pdg.lbl.gov/2016/tables/contents_tables.html))
  - dE/dx and range tables for protons (and more) in:  
<http://www.nist.gov/pml/data/star/index.cfm>
  - Photon absorption coefficients:  
<http://physics.nist.gov/PhysRefData/XrayMassCoef/tab3.html>
- >**Photomultiplier tubes: basics and applications**  
[http://www.hamamatsu.com/resources/pdf/etd/PMT\\_handbook\\_v3aE.pdf](http://www.hamamatsu.com/resources/pdf/etd/PMT_handbook_v3aE.pdf)