

Resources

• Core textbook:

- S.A.Kane - Introduction to Physics in Modern Medicine (2nd Edition)

Background textbook:

B H Brown, R H Smallwood, D C Barber, P V Lawford, D R Hose - Medical Physics and Biomedical Engineering, Institute of Physics, 1999

J T Bushberg, J A Seibert, E M Leidholdt, J M Boone - The Essential Physics of Medical Imaging, 2nd ed., Lippincott, Williams & Wilkins, 2002

Other:

D J Dowsett, PA Kenny, R E Johnston – The Physics of Diagnostic Imaging, Arnold 2001

Biochemistry:

Lehninger

Stryer

MEDICAL PHYSICS

- Heinz Morneburg (Ed.): Bildgebende Systeme für die medizinische Diagnostik, Siemens AG, 3. Aufl. 1995
- Schlegel, Karger, Jäkel (Hrsg.): „Medizinische Physik“, Springer, 2018

X-RAY COMPUTER-TOMOGRAPHY (CT)

T.M. Buzug: Einführung in die Computertomographie, Springer, Berlin, 2004

NUCLEAR MEDICINE

K. Wienhard, R. Wagner, W.–D. Heiss: PET – Grundlagen und Anwendungen der Positronen–Emissions–Tomographie, Springer–Verlag, 1989

Bailey, Townsend, Valk, Maiseng: PET, Springer–Verlag, 2005

Positron Emission Tomography (PET)

Ostertag, Hermann. "Positronen-Emissions-Tomographie (PET): Ein diagnostisches Verfahren zur in vivo-Stoffwechseluntersuchung mit Positronenstrahlern. Verfahren Positronenstrahlern."

Physikalische Blätter 48.2: 77-83 (1992)

Degenhardt, Carsten and Thon, Andreas. "Blitzschnelle Einblicke: Funktionale Bildgebung mit der Positronen-Emissions-Tomographie entlarvt Krebs im Frühstadium."

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Saha, Gopal B. Basics of PET Imaging: Physics, Chemistry, and Regulations. Springer New York, 2005

Cherry, Simon R., Magnus Dahlbom, and Michael E. Phelps. PET : Physics, Instrumentation, and Scanners. Springer New York, 2006

Lin, Eugene C. PET and PET/CT: a clinical guide. Thieme, Stuttgart, 2009

MAGNETIC RESONANCE

- Anatol Abragam: The Principles of Nuclear Magnetism, Oxford University Press, London, 1961

Richard B. Buxton: Introduction to Functional Magnetic Resonance Imaging, Principles & Techniques, Cambridge University Press, 2002

E.R. Danielsen, Brian D. Ross: Magnetic Resonance Spectroscopy Diagnosis of Neurological Diseases, Marcel Dekker, New York, 1999

- R.R. Ernst, G. Bodenhausen, A. Wokaun: Principles of Nuclear Magnetic Resonance in One and Two Dimensions, Oxford University Press, 1987

T.C. Farrar, E.D. Becker: Pulse and Fourier Transform NMR, Academic Press, 1971

Horst Friebolin: Ein- und zweidimensionale NMR-Spektroskopie, VCH Verlagsges., Weinheim, 1988

David G. Gadian: Nuclear Magnetic Resonance and its applications to living systems, 2nd ed., Oxford Science Publications, Oxford University Press, 1995

- Robin A. de Graaf: *In vivo* NMR spectroscopy – Principles and Techniques; Wiley, second edition, 2007

- David M. Grant, Robin K. Harris (Editors-in-Chief): *ENCYCLOPEDIA of Nuclear Magnetic Resonance*, Vol. I–VIII, John Wiley & Sons, Chichester, New York, 1996

Harald Günther: *NMR Spectroscopy*, Wiley, second edition, 2001

Robin K. Harris: *Nuclear Magnetic Resonance Spectroscopy*, Longman, 1986

H. Hricak, Max Reiser, Wolfhard Semmler (Eds.): *Magnetresonanztomographie*, Springer-Verlag, Berlin, Heidelberg, 4. Aufl., 2007

James Keeler: *Understanding NMR spectroscopy*, Wiley, 2006

Rainer Kimmich: *NMR – Tomography, Diffusometry, Relaxometry*, Springer-Verlag, Heidelberg, 1997

David Neuhaus, Michael P. Williamson: *The nuclear Overhauser effect in structural and conformational analysis*, VCH Publishers, Weinheim, 1989

Derek Shaw: *Fourier Transform NMR Spectroscopy*, Elsevier Science Publishers, Amsterdam, 1984

- C.P. Slichter: *Principles of Magnetic Resonance*, Springer-Verlag, Heidelberg, 3rd edition, 1996

Paul Tofts (Ed.): *Quantitative MRI of the brain*, 2004