

Special Topics in Cosmology (Spring 2013)

Cosmology Books:

By publication year order:

- 1) S. Weinberg. "*Gravitation and Cosmology*", John Wiley and Sons 1972.
- 2) P.J.E. Peebles, "*Large Scale Structure of the Universe*", Princeton University Press, 1980.
- 3) E. W. Kolb and M. S. Turner, "*The Early Universe*", Addison-Wesley, 1988.
- 4) T. Padmanabhan "*Structure Formation in The Universe*" Cambridge University Press 1993.
- 5) J.A. Peacock, "*Cosmological Physics*", Cambridge University Press, 1999.
- 6) S. Dodelson, "Modern Cosmology," *Amsterdam, Netherlands: Academic Pr.*, 2003
- 7) V. Mukhanov, "Physical foundations of cosmology," *Cambridge, UK: Univ. Pr.*, 2005.
- 8) Peter Schneider, "*Extragalactic Astronomy and Cosmology*", Springer 2006.
- 9) A. R. Liddle and D. H. Lyth, "Cosmological inflation and large-scale structure"
- 10) S. Weinberg, "Cosmology " Oxford University Press, 2008.
- 11) H. Bradt, "Astrophysical Processes", Cambridge University Press, 2008.
- 12) James Binney and Scott Tremaine, "*Galactic Dynamics*", Princeton series in Astrophysics, 2008.
- 13) Ruth Durrer, "*The Cosmic Microwave Background Radiation*", Cambridge University Press (2008).
- 14) David H. Lyth and A.R. Liddle, "The Primordial Density Perturbation", Cambridge University Press (2009).
- 15) L. Amendola and S. Tsujikawa, "*Dark Energy: Theory and Observation*", Cambridge University Press, 2010.
- 16) Stephen Serjeant, "*Observational Cosmology*", The Open University 2010.
- 17) H. Mo, F.v.den Bosch and S. White "*Galaxy Formation and Evolution*", Cambridge University Press, 2010.
- 18) Editor: Georg Wolschin "*Lectures on Cosmology: Accelerated Expansion of the Universe*", Springer 2010.

General Relativity:

- 1) Ray d'Inverno, "Introducing Einstein's Relativity" Clarendon Press-Oxford (1992).
- 2) Sean Carroll, "*Spacetime and Geometry*", Addison Wesley, 2004.
- 3) T. Padmanabhan, "Gravitation: Foundations and Frontiers", Cambridge University Press. 2010.

Cosmology Historical Perspective:

- 1) M. S. Longair. "*The Cosmic Century: A history of Astrophysics and Cosmology*", Cambridge University Press 2006.
- 2) Robert H. Sanders, "*Dark Matter: A historical Perspective*", Cambridge University Press.

- 3) Richard Panek, "*The 4% Universe: Dark Matter, Dark Energy and the race to discover the rest of reality*", Mariner books, 2010

Review Articles and References:

Inflation

- 1) D. Baumann, "*TASI Lectures on Inflation*", arXiv:0907.5424
- 2) X. Chen, "*Primordial Non-Gaussianity from Inflationary models*", arXiv: 1002.1416
- 3) N. Bartolo, E. Komatsu, S. Matarrese and A. Riotto, "*Non-Gaussianity from inflation: Theory and observations*," Phys. Rept. 402, 103 (2004) : arXiv:astro-ph/0406398 .

Dark Matter:

- 1) G.D' Amico, M. Kamionkowski and K. Sigurdson, "*Dark Matter Astrophysics*", arXiv:0907.1912

Dark Energy and Modified Gravity:

- 1) P.J.E. Peebles and B. Ratra, "*The Cosmological Constant and dark Energy*", arXiv: 0207347
- 2) Thomas Sotiroui, "*The Modified Gravity actions: Theory and Phenomenology*", Ph.D thesis: arXiv:0710:4438
- 3) Shant Baghram, "*Observational Tests of Dark energy and Modified Gravity Theories*", Ph.D. thesis (2011).
<http://www.astro.ipm.ir/baghramian/PHD-Shant.pdf>

Large Scale structure of Universe:

- 1)F. Bernardeau, S. Colombi, E. Gaztanaga and R. Scoccimarro, "*Large Scale Structure of Universe and Cosmological Perturbation Theory*", arXiv: 0112551

CMB:

- 1)Wayne Hu, "*Lecture Notes on CMB theory: From Nucleosynthesis to Recombination* ", arXiv: 0802.3688

Baryons:

1) Farhang Habibi, "Searching For Missing Baryons through Scintillation", Ph.D. thesis, (2011) http://hal.in2p3.fr/docs/00/62/54/86/PDF/VD2_HABIBI_FARHANGH_15062011.pdf