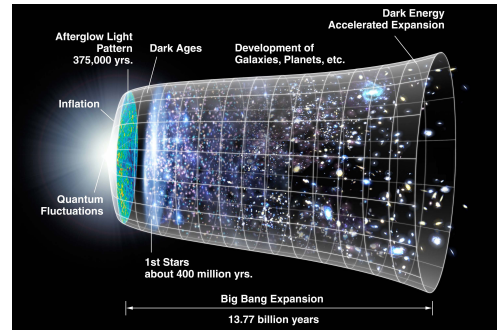
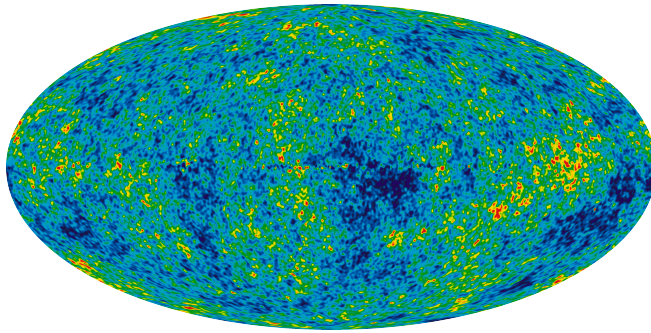


General Relativity III: Cosmology



Contents

- Introduction to Cosmology
- Cosmological principle and Robertson-Walker metric
- Redshift distance relation
- Cosmic distance ladder
- World model
- World state
- Cosmological standard model
- Cosmic microwave background radiation

References

- T. Fließbach, *Allgemeine Relativitätstheorie*, Spektrum Verlag
- A. Guth, *The Inflationary Universe: The Quest for a New Theory of Cosmic Origins*, Vintage
- J. B. Hartle, *Gravity - An Introduction to Einstein's General Relativity*, Addison Wesley
- D. J. E. Marsh, D. Ellis, and V. M. Mehta, *Dark Matter: Evidence, Theory, and Constraints*, Princeton University Press
- S. Profumo, *An Introduction to Particle Dark Matter*, World Scientific
- U. E. Schröder, *Gravitation: Eine Einführung in die allgemeine Relativitätstheorie*, Verlag Harri Deutsch
- H. Stephani, *Allgemeine Relativitätstheorie*, Deutscher Verlag der Wissenschaften

- S. Weinberg, *Gravitation and Cosmology - Principles and Applications of the General Theory of Relativity*, John Wiley & Sons
- S. Weinberg, *Cosmology*, Oxford University Press
- S. Boblest, T. Müller, G. Wunner, *Spezielle und allgemeine Relativitätstheorie – Grundlagen, Anwendungen in Astrophysik und Kosmologie sowie relativistische Visualisierung*, Springer

Organizational Remarks

- 2 hours per week
- 4 ECTS credits
- Certificate for active participation:
 - Seminar talk of 15 minutes at semester end
 - Suggestions for topics announced beginning of June
- **Oral module exam possible**