References on General Relativity

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Abstract

Quantum Observables

1 Non technical references

References

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2 Basic References

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3 Advanced References

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4 Mathematics Oriented References

References

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5 Math for General Relativity: Tensor Calculus

References

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6 Math for General Relativity: Differential Geometry

References

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7 Softwares

References

[1] galpy: Python package for galactic dynamics

7.1 Selected Topics: Burgers Equation

References

[1] Tuba Ceylan, Philippe G. LeFloch, Baver Okutmustur. The relativistic Burgers equation on a FLRW background and its finite volume approximation. 2015. arXiv:1512.08142v1.

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8 Selected Topics: Cosmological Constant

References

[1] Christian G. Boehmer. General Relativistic Static Fluid Solutions with Cosmological Constant (2003). arXiv:gr-qc/0308057v3.

9 Teacher Websites

Physics Page: This site contains notes and solutions to various problems in some textbooks in physics and related fields. The site is fairly technical and uses whatever mathematics is required to explain the various topics.

John C. Baez. The Meaning of Einstein's Equation: This is a brief introduction to general relativity, designed for both students and teachers of the subject. While there are many excellent expositions of general relativity, few adequately explain the geometrical meaning of the basic equation of the theory: Einstein's equation. Here we give a simple formulation of this equation in terms of the motion of freely falling test particles. We also sketch some of the consequences of this formulation and explain how it is equivalent to the usual one in terms of tensors. Finally, we include an annotated bibliography of books, articles and websites suitable for the student of relativity.
(PDF version)

Professor Zhao H. page: lecture notes on cosmology, general relativity and astronomy.

10 Blogs

Comments for physicspages.com: This blog is maintained for posting comments and reports of errors onphysicspages.com site.

11 Online Courses

12 Youtube Lectures

Physics Unsimplified: Youtube Channel with lessons on general relativity, besides the videos there are also slides to accompany.