Publications in Gravitational Physics

Yi-Fan Wang

January 19, 2018

1 General Relativity

1.1 Formalism

The surface term was rediscovered (?) by [GH77; Yor72] and thus (?) named as the Gibbons–Hawking–York term.

The Arnowitt–Deser–Misner formalism was first published in [ADM59] and was reviewed in [ADM08] (reprint, original needed), editorial note: [Pul08].

1.2 Exact solution

2 Gauge Theories of Gravitation

Friedrich Hehl on Poincaré gauge theory: [Heh+76], status unclear. Friedrich Hehl on Metric-affine theory: [Heh+95], status unclear.

3 Cosmology

3.1 Inflation

Dong-Gang Wang has suggested [Bau11]

4 Text books

4.1 Course of theoretical Physics

The current English volumes are [Lan+86; LL75; LL80a; LL80b; LP80; LL77; BLP82; LP81; LL76; LL87a; LLP84] (cleaning and linking to Russian versions needed).

The current German volumes are [LL97; LL92a; LL12; LL91a; LL87b; LL91b; LL91c; LL90a; LL92b; LL90b] (cleaning and linking to Russian versions needed).

4.2 A Shorter Course of theoretical Physics

[LL74; LL72] (cleaning and linking to Russian versions needed)

References

- [ADM59] R. Arnowitt, S. Deser, and C. W. Misner. "Dynamical Structure and Definition of Energy in General Relativity". In: *Physical Review* 116.5 (Dec. 1959), pp. 1322–1330. DOI: 10.1103/physrev.116. 1322.
- [ADM08] Richard Arnowitt, Stanley Deser, and Charles W. Misner. "Republication of: The dynamics of general relativity". In: *General Relativity and Gravitation* 40.9 (Aug. 2008), pp. 1997–2027. DOI: 10.1007/s10714-008-0661-1.
- [Bau11] Daniel Baumann. "Inflation". In: Physics of the Large and the Small. World Scientific, Mar. 2011. DOI: 10.1142/9789814327183_0010. eprint: https://arxiv.org/abs/0907.5424.
- [BLP82] Vladimir Borisovich Berestetskii, Evgeny Mikhailovich Lifshitz, and Lev Petrovich Pitaevskii. *Quantum Electrodynamics*. Trans. from the Russian by J. B. Sykes and J. S. Bell. 2nd ed. Vol. 4. 10 vols. Course of Theoretical Physics. Elsevier, 1982. DOI: 10.1016/c2009-0-24486-2 (cit. on p. 1).
- [GH77] G. W. Gibbons and S. W. Hawking. "Action integrals and partition functions in quantum gravity". In: *Physical Review D* 15.10 (May 1977), pp. 2752–2756. DOI: 10.1103/physrevd.15.2752.
- [Heh+76] Friedrich W. Hehl et al. "General relativity with spin and torsion: Foundations and prospects". In: *Reviews of Modern Physics* 48.3 (July 1976), pp. 393–416. DOI: 10.1103/revmodphys.48.393.
- [Heh+95] Friedrich W. Hehl et al. "Metric-affine gauge theory of gravity: field equations, Noether identities, world spinors, and breaking of dilation invariance". In: *Physics Reports* 258.1-2 (July 1995), pp. 1–171. DOI: 10.1016/0370-1573(94)00111-f.
- [LL72] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. *Mechanics and Electrodynamics*. Vol. 1. 2 vols. A Shorter Course of Theoretical Physics. Elsevier, 1972. DOI: 10.1016/c2009-0-06775-0 (cit. on p. 1).
- [LL74] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. *Quantum Mechanics*. Vol. 2. 2 vols. A Shorter Course of Theoretical Physics. Elsevier, 1974. DOI: 10.1016/c2013-0-05654-x (cit. on p. 1).
- [LL75] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. The Classical Theory of Fields. Trans. from the Russian by Morton Hamermesh. 4th ed. Vol. 2. 10 vols. Course of Theoretical Physics. Pergamon, 1975. ISBN: 9780080250724. DOI: 10.1016/c2009-0-14608-1 (cit. on p. 1).
- [LL76] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. *Mechanics*. 3rd ed. Vol. 1. 10 vols. Course of Theoretical Physics. Elsevier, 1976. DOI: 10.1016/c2009-0-25569-3 (cit. on p. 1).
- [LL77] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. Quantum Mechanics. 3rd ed. Vol. 3. 10 vols. Course of Theoretical Physics. Elsevier, 1977. DOI: 10.1016/c2013-0-02793-4 (cit. on p. 1).

- [LL80a] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. *Statisti-cal Physics*. 3rd ed. Vol. 5.1. 10 vols. Course of Theoretical Physics. Pergamon, 1980. DOI: 10.1016/c2013-0-00704-9 (cit. on p. 1).
- [LL80b] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. Statistical Physics. Trans. from the Russian by J. B. Sykes and M. J. Kearsley. 3rd ed. Vol. 5.1. 10 vols. Course of Theoretical Physics. Butterworth—Heinemann, 1980. DOI: 10.1016/c2009-0-24487-4 (cit. on p. 1).
- [LL87a] Lev Davidovich Landau and Evgeny Mikhailovich Lifshitz. *Fluid Mechanics*. 2nd ed. Vol. 6. 10 vols. Course of Theoretical Physics. Elsevier, 1987. DOI: 10.1016/c2013-0-03799-1 (cit. on p. 1).
- [LLP84] Lev Davidovich Landau, Evgeny Mikhailovich Lifshitz, and Lev Petrovich Pitaevskii. Electrodynamics of Continuous Media. Trans. from the Russian by J. B. Sykes, J. S. Bell, and M. J. Kearsley. 2nd ed. Vol. 8. 10 vols. Course of Theoretical Physics. Pergamon, 1984. ISBN: 9780080302751. URL: https://www.amazon.com/Course-Theoretical-Physics-Second-Electrodynamics/dp/0080302750? SubscriptionId=0JYN1NVW651KCA56C102&tag=techkie-20&linkCode=xm2&camp=2025&creative=165953&creativeASIN=0080302750 (cit. on p. 1).
- [Lan+86] Lev Davidovich Landau et al. Theory of Elasticity. Trans. from the Russian by J. B. Sykes and W. H. Reid. 3rd ed. Vol. 7. 10 vols. Course of Theoretical Physics. Elsevier, 1986. DOI: 10.1016/c2009-0-25521-8 (cit. on p. 1).
- [LL87b] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik V. Statistische Physik I. Vol. 5. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Dec. 11, 1987. ISBN: 3808556544. URL: http://www.ebook.de/de/product/1368191/l_d_landau_eewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_v_statistische_physik_i.html (cit. on p. 1).
- [LL90a] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der Theoretischen Physik VIII. Elektrodynamik der Kontinua. Vol. 5. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Jan. 1, 1990. ISBN: 3808555009. URL: http://www.ebook.de/de/product/1368195/lew_d_landau_ewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_viii_elektrodynamik_der_kontinua.html (cit. on p. 1).
- [LL90b] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz.

 Lehrbuch der Theoretischen Physik X. Physikalische Kinetik. Vol. 10.

 Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Jan. 1,
 1990. ISBN: 3808556242. URL: http://www.ebook.de/de/product/
 1368196 / lew_d_landau_ewgeni_m_lifschitz_evgenij_m_
 lifschitz_lehrbuch_der_theoretischen_physik_x_physikalische_
 kinetik.html (cit. on p. 1).

- [LL91a] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik IV. Quantenelektrodynamik. Vol. 4. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Dec. 11, 1991. 636 pp. ISBN: 3808556323. URL: http://www.ebook.de/de/product/1368190/lew_d_landau_ewgeni_m_lifschitz_lev_d_landau_evgenij_m_lifschitz_lehrbuch_der_theoretischen_physik_iv_quantenelektrodynamik.html (cit. on p. 1).
- [LL91b] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz.

 Lehrbuch der theoretischen Physik VI. Hydrodynamik. Vol. 6. Lehrbuch
 der theoretischen Physik. Europa Lehrmittel Verlag, Dec. 11, 1991.

 ISBN: 3808555548. URL: http://www.ebook.de/de/product/
 1368192/lew_d_landau_ewgeni_m_lifschitz_lehrbuch_der_
 theoretischen_physik_vi_hydrodynamik.html (cit. on p. 1).
- [LL91c] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik VII. Elastizitätstheorie. Vol. 7. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Jan. 1, 1991. ISBN: 3808554983. URL: http://www.ebook.de/de/product/1368193/lew_d_landau_eewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_vii_elastizitaetstheorie.html (cit. on p. 1).
- [LL92a] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik II. Klassische Feldtheorie. Vol. 2. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Jan. 1, 1992. ISBN: 3808555629. URL: http://www.ebook.de/de/product/1368188/lew_d_landau_ewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_ii_klassische_feldtheorie.html (cit. on p. 1).
- [LL92b] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik VIIII. Statistische Physik II. Europa Lehrmittel Verlag, Jan. 1, 1992. ISBN: 3808556560. URL: http://www.ebook.de/de/product/1368194/lew_d_landau_ewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_viiii_statistische_physik_ii.html (cit. on p. 1).
- [LL97] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz. Lehrbuch der theoretischen Physik I. Mechanik. Vol. 1. Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Jan. 1, 1997. ISBN: 3808556129. URL: http://www.ebook.de/de/product/2823975/lew_d_landau_ewgeni_m_lifschitz_lehrbuch_der_theoretischen_physik_i_mechanik.html (cit. on p. 1).
- [LL12] Lew Dawidowitsch Landau and Jewgeni Michailowitsch Lifschitz.

 Lehrbuch der theoretischen Physik III. Quantenmechanik. Vol. 3.

 Lehrbuch der theoretischen Physik. Europa Lehrmittel Verlag, Dec. 11,
 2012. ISBN: 3808556366. URL: http://www.ebook.de/de/product/
 1368189/lew_d_landau_eewgeni_m_lifschitz_lehrbuch_der_
 theoretischen_physik_iii_quantenmechanik.html (cit. on p. 1).

- [LP80] Evgeny Mikhailovich Lifshitz and Lev Petrovich Pitaevskii. Statistical Physics. Theory of the Condensed State. Trans. from the Russian by J. B. Sykes and M. J. Kearsley. Vol. 9.2. 10 vols. Course of Theoretical Physics. Butterworth—Heinemann, 1980. DOI: 10.1016/c2009-0-24308-x (cit. on p. 1).
- [LP81] Evgeny Mikhailovich Lifshitz and Lev Petrovich Pitaevskii. *Physical Kinetics*. Trans. from the Russian by J. B. Sykes and R. N. Franklin. Vol. 10. 10 vols. Course of Theoretical Physics. Elsevier, 1981. DOI: 10.1016/c2009-0-07802-7 (cit. on p. 1).
- [Pul08] Jorge Pullin. "Editorial note to R. Arnowitt, S. Deser, C. W. Misner The dynamics of general relativity". In: *General Relativity and Gravitation* 40.9 (July 2008), pp. 1989–1995. DOI: 10.1007/s10714-008-0649-x.
- [Yor72] James W. York. "Role of Conformal Three-Geometry in the Dynamics of Gravitation". In: *Physical Review Letters* 28.16 (Apr. 1972), pp. 1082–1085. DOI: 10.1103/physrevlett.28.1082.