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一般相対性理論 110 年　論文選

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一般相対性理論の研究の柱には，(a) ブラックホールや中性子星などの強重力天体，(b) 宇宙論，(c) 重力波，そして (d) 相対論を超える重力理論の探究の４つの方向がある．理論提唱から 110 年を経て，ブラックホール・中性子星は直接撮像がなされ，宇宙膨張は確認され，重力波観測も日常のものになった．相対論の検証もさまざまになされているが，綻びは見つかっていない．本稿では，これから活躍される若手研究者向けに，分野別に飛躍をもたらした文献を列挙する．（真貝の趣味・興味に基づいた論文選なので，当然ながら，分野別に濃淡があること，最近のものはあまり積極的に取り入れていないこと，を承知おきいただきたい）．

参考としたのは，

- Living Rev. Relativity 誌の Top Cited References [1]，すべて
- Emanuele Berti による「Must-read paper list」[2] すべて
- Top Cited Articles of All Time (2009 edition) by gr-qc [3] 2010 年 1 月はじめ時点での，それまでの引用 top 50 文献
- 新編物理学選集 63『相対論的重力場の理論』(日本物理学会，1975) 収録の論文の一部
- 新編物理学選集 74『重力崩壊とブラックホール』(日本物理学会，1980) 収録の論文の一部

である．

なお，真貝は，演習書『Problem Book in Relativity and Gravitation』（A. P. Lightman 他著，Princeton Univ. Press, 1975) を邦訳（真貝・鳥居隆訳，森北出版，2019）した際に，相対性理論の最近の進展についての付録を書いている．文章による解説はそちらも参照されたい．

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[1] https://www.emis.de/journals/LRG/About/lists.html
[2] https://pages.jh.edu/eberti2/posts/must-read-paper-list/
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