

**Brill, Dieter**

**Black holes and wormholes in 2 + 1 dimensions.** (English) [Zbl 0993.83018](#)

Cotsakis, Spiros (ed.) et al., Mathematical and quantum aspects of relativity and cosmology. Proceedings of the 2nd Samos meeting on cosmology, geometry and relativity, Pythagoreon, Greece, August 31-September 4, 1998. Berlin: Springer. Lect. Notes Phys. 537, 143-179 (2000).

Summary: Vacuum Einstein theory in three spacetime dimensions is locally trivial, but admits many solutions that are globally different, particularly if there is a negative cosmological constant. The classical theory of such locally “anti-de Sitter” spaces is treated in an elementary way, using visualizable models. Among the objects discussed are black holes, spaces with multiple black holes, their horizon structure, closed universes, and the topologies that are possible.

For the entire collection see [[Zbl 0973.00060](#)].

**MSC:**

- [83C57](#) Black holes
- [83C80](#) Analogues of general relativity in lower dimensions
- [83F05](#) Relativistic cosmology
- [53Z05](#) Applications of differential geometry to physics

Cited in **23** Documents

**Keywords:**

[black holes](#); [2 + 1 dimensions](#); [horizon structure](#); [closed universes](#); [topologies](#)

**Full Text:** [arXiv](#)