

Page 1: Introduction to Black Holes

Black holes are among the most fascinating predictions of Einstein's theory of general relativity. They are regions of spacetime where gravity is so strong that nothing—not even light—can escape. The idea of an object with gravity strong enough to trap light was first suggested in the 18th century, but black holes became a serious scientific concept only after the development of general relativity in 1915.

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Page 2: Formation of Black Holes

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Page 3: Event Horizon

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Page 4: Singularity

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Page 5: Types of Black Holes

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Page 6: Supermassive Black Holes and Galaxies

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Page 7: Accretion Disks

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Page 8: Jets and High-Energy Phenomena

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Page 9: Detecting Black Holes

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Page 10: Gravitational Waves

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Page 11: Black Hole Thermodynamics

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Page 12: Hawking Radiation

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Page 13: Information Paradox

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Page 14: Quantum Gravity and Black Holes

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Page 15: Black Holes in Popular Culture

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Page 16: Observational Breakthroughs

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Page 17: Future Observatories

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Page 18: Black Holes and Cosmology

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Page 19: Open Questions

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Page 20: Conclusion

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