



# Superradiance [ Energy Extraction, Black-Hole Bombs and Implications for Astrophysics and Particle Physics /

Brito, Richard

Physics Quantum theory Physics Classical and Quantum Gravitation, Relativity Theory Cosmology Elementary Particles, Quantum Field Theory

Monografía

This volume gives a unified picture of the multifaceted subject of superradiance, with a focus on recent developments in the field, ranging from fundamental physics to astrophysics. Superradiance is a radiation enhancement process that involves dissipative systems. With a 60 year-old history, superradiance has played a prominent role in optics, quantum mechanics and especially in relativity and astrophysics. In Einstein's General Relativity, black-hole superradiance is permitted by dissipation at the event horizon, which allows energy extraction from the vacuum, even at the classical level. When confined, this amplified radiation can give rise to strong instabilities known as "blackhole bombs", which have applications in searches for dark matter, in physics beyond the Standard Model and in analog models of gravity. This book discusses and draws together all these fascinating aspects of superradiance

<https://rebiunoda.pro.baratznet.cloud:28443/OpacDiscovery/public/catalog/detail/b2FpOmNlbGVicmF0aW9uOmVzLmJhcmF0ei5yZW4vMTgwMzg0NTc>

**Título:** Superradiance Recurso electrónico] Energy Extraction, Black-Hole Bombs and Implications for Astrophysics and Particle Physics by Richard Brito, Vitor Cardoso, Paolo Pani

**Mención de serie:** Lecture Notes in Physics 906

**Contenido:** Introduction -- Superradiance in flat spacetime -- Superradiance in black hole physics -- Black holes and superradiant instabilities -- Black hole superradiance in astrophysics -- Conclusions and Outlook

**Restricciones de acceso:** Acceso restringido a miembros del Consorcio de Bibliotecas Universitarias de Andalucía

**Detalles del sistema:** Modo de acceso: world wide web

**Fuente de adquisición directa:** Springer (e-Books)

**ISBN:** 9783319190006 978-3-319-19000-6 9783319189994

**Autores:** Cardoso, Vitor Pani, Paolo

---

## **Baratz Innovación Documental**

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- [informa@baratz.es](mailto:informa@baratz.es)