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Black hole / string ball production, possibly at LHC

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Abstract content

Summary

The correspondence principle says that an ensemble of highly excited string states is equivalent to a black hole at a certain threshold. I will discuss its theoretical basis and will show our results on the correspondence between a production cross section of rotating black holes and that of string states with fixed angular momentum. I will show that such a black hole/string ball can be possibly produced at LHC and will present how it will be experimentally observed. Following is a part of related references:

T. Matsuo and K. Oda, "Geometric cross sections of rotating strings and black holes," Phys.Rev.D79, 026003 (2009).

D. Ida, K. Oda and S. C. Park, "Rotating black holes at future colliders. III. Determination of black hole evolution," Phys.Rev.D73, 124022 (2006);

"Rotating black holes at future colliders: Greybody factors for brane fields," Phys.Rev.D67,064025 (2003).

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