

Phenomenology: Information paradox and table-top experiments

Black holes can be simulated by water in a tank or in general in analogue gravity models known as dumb holes. If one simulates the Hawking radiation in these models finds that the loss of information is equal to the loss of the momentum of the fluid over the dumb hole horizon. However, due to the steadiness of the horizon one expects that there is a missing momentum over the horizon. By imposing Newton's second law of motion to the horizon and the contribution of the missing momentum the island prescription appeared. The analysis of the information paradox in the analogue gravity models shows the point that the island prescription which is an ad hoc solution to the paradox in holography arises naturally in the analogue gravity models by imposing Newton's second law. Then it seems that the analysis of high energy physics problems in the analogue gravity opens up a new avenue in high energy physics

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Session Classification: Parallel Sessions