

## Phenomenology 2014 Symposium



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### Icezones vs. Firewalls

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We critically examine the assumptions made in the setup of the firewalls paradox. We point out several flaws which indicate that the paradox itself is not formulated in a self-consistent way. In particular, during the black hole evaporation, a mode of the late radiation is never simultaneously entangled with early radiation and a mode inside the horizon. We then go a step forward, and show that perturbative and non-perturbative interactions which generally modify the thermal density matrix of the Hawking radiation could unitarize the evolution of the black hole. There is no need for the non-standard physics whatsoever.

**Primary author:** STOJKOVIC, Dejan (SUNY at Buffalo)

**Presenter:** STOJKOVIC, Dejan (SUNY at Buffalo)

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