

International Workshop on: Simulating gravitation and cosmology in condensed matter and optical systems



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Cosmology in the laboratory

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Bekenstein and Hawking predicted that black holes are not black, but radiate due to the quantum physics of the vacuum. Fulling, Davies and Unruh predicted that an accelerated observer perceives the quantum vacuum as thermal radiation. Both effects draw tantalizing connections between general relativity, quantum mechanics and thermodynamics, and both effects have never been observed yet. The lecture shows how laboratory analogues of the event horizon and of relativistic acceleration can, literally, shed light on such and similar phenomena.

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