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A generalized model of repeated quantum interactions

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We study the different scenarios that repeated quantum interactions between a system S and an ancillary system S_m induces on the former. These latter systems play the role of measurement devices, or meters. Distinct dynamics emerge depending on various limits that can be taken for the ancillae.

Of special interest is the case where induced effective interactions between subsystems of a composite system arise due to their repeated interactions with a common set of meters, which we use to investigate the possibility of describing gravity as a classical channel, or in other words, that gravity arises as an effective force that cannot transmit quantum information.

Authors: ZYCH, Magdalena (University of Queensland); ALTAMIRANO, Natacha (University of Waterloo); CORONA UGALDE, Paulina (University of Waterloo); MANN, Robert (University of Waterloo)

Presenter: CORONA UGALDE, Paulina (University of Waterloo)

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