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Meter sensitivity in quantum measurements

Quantum systems can only be measured by interactions with an external meter. This interaction is described by a unitary transformation that involves quantum superpositions in both the system and the meter. In this presentation, we analyze the sensitivity of the quantum coherent meter response using the Fisher information. It is shown that the sensitivity of the meter is limited by quantum fluctuations that have a direct effect on the dynamics of the system during the interaction.

Presenter: MATSUSHITA, Tomonori (Hiroshima University) **Session Classification:** Beers and Posters