



東京大学大学院理学系研究科・理学部

物理学教室 談話会

Dr. George Sudarshan

(Center for Complex Quantum Systems,
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「Quantum Zeno Effect」

2015年8月21日(金) 午後1時00分～午後2時30分

東京大学理学部4号館3階1320号室

“When we continuously observe an unstable particle, its time evolution from the initial state is suppressed.” This inspiring proposal in 1976 by Baidyanath Mishra and George Sudarshan has been well known as “Zeno’s paradox in quantum theory”, and has posed a great challenge in both theoretical and experimental fields. The proposal has required revision in the fundamental properties of quantum dynamics, measurement, and application to the control of quantum state, resulting in more than thousand papers until today.

Experimental evaluation of the proposal with unstable two- (or three-) levels system revealed that the proposal is no more paradox, but a new vision of quantum physics called “quantum Zeno effect”. The extension of the concept produces hot discussion around “Anti quantum Zeno effect” and “Zeno subspace”, to name the few.

In this special lecture, Prof. Sudarshan will provide a review on related studies, background philosophy of the proposal, and future opportunities/challenges of the concept to further deepen our understanding on the quantum dynamics.

※ 専門外、学生の方にもわかりやすくお話し頂く予定です。