先端研レクチャーシリーズ　第5回

# Collapse of metastable states in quantum systems
# （量子系の準安定緩和）

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日時：令和２年６月１０日（水）１５：００～１６：３０
　　令和２年６月１７日（水）１３：００～１４：３０

場所：Zoomによるオンライン講義

Lecture is given in Japanese with English slides.

要旨
Metastable states play important roles in many phenomena. We study mechanism of their collapses from microscopic viewpoints by taking a few examples in quantum mechanical systems. The lecture will consist of the following contents:
— Brief review on the metastable state from a mean-field scheme and dynamics of collapse of metastable state (spinodal point, tunneling probability, nucleation process, and dynamical spinodal point).
— As an example, we pick up a single magnet (Stoner-Wohlfarth model) and study quantum effect on collapse of metastable state of the model, and also discuss the nature of classical and fluctuations the transverse Ising model.
— As another example, we study tunneling phenomena in the process of particle conveyance by a potential wall. We also study the metastable states from the viewpoint of eigenvalue problem.
If we have a time, effects of dissipative environments are discussed, and also various examples of the first order phase transitions are presented.

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**＊ZoomのURLにつきましては、先端理論物理研究グループ宇都野穣）utsuno.yutaka@jaea.go.jp)までご連絡ください。**