

Title: A study on less is more from the perspective of non-Hermitian quantum system

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In emergence, at each level of complexity entirely new properties appear and the understanding of the new behaviour triggers a new front of research area. More is not only in the sence of length scale depent physics but also from the perspective of interactions. We show explicitly how the emergence physics changes in presence of more interactions. We show explicitly that the emergence of different kinds of topological excitation occur at different length scale for the strongly correlated Parity-Time (PT) symmetry system through the analysis of quantum field theoretical renormalization group (RG) flow equation. We present explicit results for the emergence phyiscs at the exceptional (EP) for different regime of strong correlation. We show explicitly from these different types of emergence at different length scale that if more is different then less is more also. This work provides a new perspective for the physics of emergence in non-hermitian quantum many body system.

Biography

Sujit Sarkar has completed his PhD at the age of 30 years from Saha Institute of Nuclear Physics and postdoctoral position experience at the Max-Planck Institute of Complex System, Germany and also from the Weizmann Institute of Science, Bar-Ilan University from Israel. He is now Associate Professor. He has published more than 74 papers in reputed journals including nature publication group. His area of research interest are quantum many body physics for strongly correlated system, topological states of quantum matter and quantum field theory for quatum matter and interacting disorder system.

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