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School of Mathematical and Statistical Sciences

Distinguished Colloquium Series

The Cauchy problem of Klein–Gordon equation under the quartic potential in the de Sitter spacetime

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Abstract

The Cauchy problem for the Klein-Gordon equation under the quartic potential is considered in the de Sitter spacetime. The existence of global solutions for small rough initial data is shown based on the mechanism of the spontaneous symmetry breaking for the small positive Hubble constant. The effects of the spatial expansion and contraction on the problem are considered.

Short Bio of the Speaker

Makoto Nakamura received his PhD in 1999 from Hokkaido University in Japan. He was a research associate at Tohoku University, and then an associate professor at Tohoku University, and then a professor at Yamagata University before moving to Osaka University to become a professor in the department of pure and applied Mathematics of graduate school of information science and technology. His research interests include topics in nonlinear partial differential equations, Cauchy problems, global solutions, blowing-up solutions, and asymptotic behavior.

Date: Thursday, March 23, 2023

Time: 12:00-1:00 pm CT

Location: EMAGC 2.410

Zoom: https://utrgv.zoom.us/j/3691395554

For further information or for special accommodations, please contact Dr. Baofeng Feng via email at baofeng.feng@utrgv.edu and Dr. Karen Yagdjian at karen.yagdjian@utrgv.edu