APPLIED MATHEMATICS SEMINAR

Noether Symmetries in Quantum Cosmology: A selection rule for time evolving observable universes

by

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Abstract: Noether's symmetries have a prominent role in any branch of Physics. Here, we discuss their role in Quantum Cosmology. In particular, we consider minisuperspace cosmological models, showing that the existence of symmetries, and then conserved quantities, not only allows to obtain exact solutions but gives a selection rule for observable universes evolving in time. On the other hand, if symmetries do not exist, evolution in time is not possible. Specifically, the so-called Hartle criterion of Quantum Cosmology can be related to a first principle: the existence of symmetries. Some specific models are worked out starting from theories of gravity where Noether symmetries are identified.

Date: Tuesday, February 27, 2024
Time: 16:00-17:00, GMT+3
Place: ZOOM

To request the event link, please send a message to yheydarzade@bilkent.edu.tr.