

Лаборатория теоретической физики им. Н.Н. Боголюбова

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Семинар

## **Современная математическая физика**

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состоится в пятницу 12 июля в 11:00 в Zoom

**Dhruv Ringe**

**Indian Institute of Technology Indore**

### **Constraining particle physics models with gravitational waves from the early universe**

Cosmological phase transitions (PTs) can leave behind gravitational wave (GW) imprints in the universe, which may be detected at future GW observatories. These observatories will be able to probe PTs occurring at energy scales as high as  $10^4$  to  $10^7$  GeV. This gives us a novel method to constrain Beyond Standard Model scenarios that cannot be tested at colliders. Using a few examples, I will demonstrate how the GW spectrum from strong first-order PTs and topological defects such as domain walls, can help us constrain the underlying particle physics model.