

JOINT TUFTS/MIT COSMOLOGY SEMINAR

The no-boundary proposal: alive and kicking

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It has recently been argued that the no-boundary proposal – a suggestion for the “wave function of the universe” due to Hartle & Hawking – is mathematically ill-defined, in the sense that a consistent implementation of it in terms of a path integral is impossible (Feldbrugge et al., e.g. PRL 119 171301). This is purportedly due to singular, off-shell contributions to the path integral which would render large perturbations in de Sitter space unsuppressed. The discovery of these contributions would be made possible by a mathematical device, “Picard-Lefschetz theory”. I will point out the flaws in the logic leading to these conclusions, argue that the no-boundary idea does lead to physically reasonable predictions in cosmology in simple models, that singular configurations are irrelevant and that Picard-Lefschetz theory is a red herring.

Tuesday, April 2, 2019, 2:30 pm
574 Boston Ave, Room 310
Tufts University

Refreshments at 2:00 outside room 304