

Abstract Submitted
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Can thermal input from a prior universe account for relic graviton production?: Implications for the cosmological landscape ANDREW BECKWITH, APS/ Contractor, Fermi National Laboratory — The author presents how one can answer if Sean Carroll's supposition of a pre inflation state of low temperature-low entropy pre inflation state provides a bridge between two models. Note, loop quantum gravity gives us thermal input permitting large scale relic graviton production. Brane world models as constructed by Randall and Sundrum permit the low entropy conditions Carroll and Chen predicted in 2005. Then we make a linkage from the brane world model to the 10 to the 32 Kelvin conditions stated by Weinberg in 1972 as necessary for quantum gravity. Afterwards, we have a transition to Guth style inflation. We also discuss a difference in values of the cosmological constant between a huge upper bound dependent upon temperature, and a lower bound predicted by Barvinsky et al. in late 2006 with the difference in values as an energy input into relic graviton production. This introduce quantization via a shift in values of the Hartle-Hawking wave function from a lower value of zero to one which is set via a cosmological constant 360 times the square of the Planck's mass.

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