

Abstract Submitted  
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**The Necessity of Quantizing Gravity**<sup>1</sup> JEREMY ADELMAN, Univ of California - Davis — The Eppley Hannah thought experiment is often cited as justification for attempts by theorists to develop a complete, consistent theory of quantum gravity. A modification of the earlier "Heisenberg microscope" argument for the necessity of quantized light, the Eppley-Hannah thought experiment purports to show that purely classical gravitational waves would either not conserve energy or else allow for violations of the uncertainty principle. However, several subsequent papers have cast doubt as to the validity of the Eppley-Hannah argument. In this talk, we will show how to resurrect the Eppley-Hannah thought experiment by modifying the original argument in a way that gets around the present criticisms levied against it.

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