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Real-time gauge/gravity duality. (English) Zbl 1228.81244

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Summary: We present a general prescription for the holographic computation of real-time n-point functions in nontrivial states. In quantum field theory such real-time computations involve a choice of a time contour in the complex time plane. The holographic prescription amounts to 'filling in' this contour with bulk solutions: real segments of the contour are filled in with Lorentzian solutions while imaginary segments are filled in with Riemannian solutions and appropriate matching conditions are imposed at the corners of the contour. We illustrate the general discussion by computing the 2-point function of a scalar operator using this prescription and by showing that this leads to an unambiguous answer with the correct $i\epsilon$ insertions.

MSC:

81T30	String and superstring theories; other extended objects (e.g., branes) in quantum field theory	Cited in **47** Documents
83E30	String and superstring theories in gravitational theory	
83C47	Methods of quantum field theory in general relativity and gravitational theory	

Full Text: DOI arXiv

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