



## **Preferred states in quantum field theories, ancient and modern**

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The vacuum state of Minkowski space quantum field theory is distinguished as a state of maximal symmetry. General curved spacetimes have no nontrivial symmetry and therefore lack an obvious candidate vacuum state. Nonetheless, one might wonder whether there is still a way of selecting a preferred state and there have been many attempts in that direction. I will discuss various aspects of this issue, describing a general model-independent no-go theorem that excludes the existence of a local and covariant choice of preferred state. I will also discuss recently-introduced class of "SJ states" and its extensions.