

A Coherent Approach to Spacetime Foam

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A coherent superposition of N Schwarzschild wormholes is proposed as a model for space-time foam. Following the subtraction procedure for manifolds with boundaries, we calculate by variational methods the Casimir energy. A proposal for an alternative foamy model formed by N Schwarzschild-Anti-de Sitter wormholes is here considered. Finally, a conjecture about the foam evolution is proposed.

Key words: Spacetime Foam; Black Holes; Quantum Gravity.