Quantum decoherence without a master equation PETER
BRYANT, University of Texas at Austin — With a choice of boundary conditions
for the Schrödinger equation, one finds asymmetric time evolution even for closed
systems. When the theory is applied to open systems, standard quantum mechanics
with unitary time evolution already predicts quantum decoherence. The practical
result is a new framework for the treatment of open systems, in which no master
equation is required. Preliminary calculations show very good quantitative agree-
ment with experiments.

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