Abstract Submitted
for the APR05 Meeting of
The American Physical Society

Quantum Stress-Energy Tensor From "Classical" Trace Anomaly
RUSLAN VAULIN, Florida Atlantic University, EMIL MOTTOLA, Los Alamos National Laboratory — We analytically computed the stress-energy tensor for generic quantum fields from the fourth order trace anomaly effective action in several fixed backgrounds including Rindler, de Sitter and Schwarschild spacetimes. The results were compared to analytical or numerical calculations done by the standard methods of quantum field theory. The exact agreement was found in the case of conformally flat spacetimes whereas in the geometrically less trivial Schwarschild space the success of the trace anomaly approach was only partial.

Ruslan Vaulin
Florida Atlantic University

Date submitted: 18 Jan 2005 Electronic form version 1.4