

Meeting: 999, Nashville, Tennessee, SS 7A, Special Session on Operator Theory on Function Spaces

999-47-11 **Vladimir Peller*** (peller@math.msu.edu), Department of Mathematics, Michigan State University, East Lansing, MI 48824. *Extensions of the Koplienko-Neidhardt trace formulae.*

The Lifshitz-Krein trace formula computes the trace of $f(A + K) - f(A)$ where A is a self-adjoint operator, K is a self-adjoint trace class operator, and f is a function satisfying certain conditions. Koplienko considered the case when K is a Hilbert-Schmidt operator. In this case $f(A + K) - f(A)$ is not in trace class and one has to subtract from $f(A + K) - f(A)$ the derivative at 0 of the operator function $s \mapsto f(A + sK)$. Koplienko obtained a trace formula for rational functions f . A similar problem for perturbations of unitary operators was obtained by Neidhardt.

I am going to speak about extensions of the trace formulae by Koplienko and Nedhardt to a considerably broader class of functions f . (Received May 28, 2004)