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Anna Skripka* (skripka@math.ucf.edu). *Schatten norms of operator derivatives.*

For a large class of admissible scalar functions f , we obtain estimates for Schatten norms of operator (Gâteaux) derivatives $\frac{d^n}{dt^n} f(H_0 + tV)$, where H_0 is a self-adjoint or unitary operator and V its perturbation in some Schatten class. These estimates are used to establish that the remainder of the Taylor-type approximation $\text{Tr} \left(f(H_0 + V) - \sum_{k=0}^{n-1} \frac{1}{k!} \frac{d^k}{dt^k} \Big|_{t=0} f(H_0 + tV) \right)$ is a bounded functional on $f^{(n)}$ for V in the n th Schatten class. The talk is based on joint work with D. Potapov and F. Sukochev. (Received September 09, 2011)