1086-22-313 **Karl-Hermann Neeb** and **Hadi Salmasian*** (hsalmasi@uottawa.ca). *The Trotter property and differentiable vectors of continuous representations.*

Let (π, V) be a continuous representation of an infinite dimensional Lie group G. Under a mild condition on G which holds for the interesting examples, we show that the common domain of k-fold products of the (unbounded) operators $\mathtt{d}\pi(x)$, for $x \in \mathrm{Lie}(G)$, is equal to the space of C^k vectors in V. We give an application of this result to unitary representations of Lie supergroups. (Received August 20, 2012)