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Two notes on eventually differentiable families of operators

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Abstract: In the first note we show for a strongly continuous family of operators $(T(t))_{t\geq 0}$ that if every orbit $t \mapsto T(t)x$ is differentiable for $t > t_x$, then all orbits are differentiable for $t > t_0$ with t_0 independent of x. In the second note we give an example of an eventually differentiable semigroup which is not differentiable on the same interval in the operator norm topology.

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