

## ON THE APPROXIMATION OF $C_0$ -SEMIGROUPS ON THE DUAL OF A BANACH SPACE

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*Abstract.* The main purpose of this paper is to present satisfactory versions of the Chernoff product formula and of the Lie-Trotter product formula for  $C_0$ -semigroups on the dual of a Banach space. Also, an application of the Lie-Trotter product formula is given for the diffusion operator on  $L^\infty$ .

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