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Mathematics > Functional Analysis

# \$C^1\$-smoothness of Nemytskii operators on Sobolev-type spaces of periodic functions

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We consider a class of Nemytskii superposition operators that covers the nonlinear part of traveling wave models from laser dynamics, population dynamics, and chemical kinetics. Our main result is the \$C^1\$-continuity property of these operators over Sobolev-type spaces of periodic functions.

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