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Functions with big and small successive derivatives everywhere. (Spanish. English summary)

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We show that, given two double sequences of positive real numbers, \( \alpha \) and \( \beta \), the subset of all functions defined on an open real set which have big derivatives and small ones with respect to \( \alpha \) and \( \beta \), at every point, is residual in \( C^\infty \). As a corollary, we derive that Baire-almost every function of \( C^\infty \) has null radius of convergence at each point.

MSC:

26E10 \( C^\infty \)-functions, quasi-analytic functions

Keywords:

infinitely differentiable functions; big derivatives; small derivatives