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A countably additive Borel measure on the group $Diff^{2k}(M)$ of diffeomorphisms of class $C^{2k}$ on an $n$-dimensional manifold $M$ is constructed which is quasi-invariant with respect to the action of the subgroup $Diff_0^{2k+3m}(M)$ consisting of the $C^{2k+3m}$-diffeomorphisms with compact support. Here $m$ is an integer greater than $(n+1)/2$ and $k > 3mn$.

Reviewer: A. Kriegl

MSC:
- 58D20 Measures (Gaussian, cylindrical, etc.) on manifolds of maps
- 28C10 Set functions and measures on topological groups or semigroups, Haar measures, invariant measures
- 58D05 Groups of diffeomorphisms and homeomorphisms as manifolds

Keywords:
group of diffeomorphisms; Borel measure