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MR663792 (84a:57027) <u>Hurder, Steven</u> Exotic classes for measured foliations. <u>Bull. Amer. Math. Soc. (N.S.)</u> 7 (1982), no. 2, 389–391. 57R30 (28D15 57R20 58F18)

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A measured foliations is a C^2 foliation \mathcal{F} of a smooth manifold M admitting a transverse invariant measure μ . If M is closed and orientable, $m = \dim(M)$ and $q = \operatorname{codim}(\mathcal{F})$, then any class $y_I \in$ $H^n(\operatorname{gl}_q, \operatorname{O}_q)$ determines, via μ -integration over the leaf space, a geometric current in $H_{m-n-q}(M)$, hence a class $\chi_{\mu}(y_I) \in H^{n+q}(M)$. The author calls these the μ -classes and announces various striking applications. These include applications to volume-preserving foliations and to residuable secondary classes (i.e., the images in $H^*(M)$ of classes $y_I c_J \in H^*(W\operatorname{O}_q)$, degree $c_J = 2q$). For instance, if M is closed and every leaf of F is compact, each residuable secondary class must vanish. Examples can be constructed in which all μ -classes are nontrivial, but it is conjectured that they vanish whenever all leaves have nonexponential growth.

Reviewed by Lawrence Conlon

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