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***Singular integral characterization of nonisotropic generalized BMO spaces***

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**Abstract:** We extend a result of Coifman and Dahlberg [Singular integral characterizations of nonisotropic  $H^p$  spaces and the F. and M. Riesz theorem, Proc. Sympos. Pure Math., Vol. 35, pp. 231–234; Amer. Math. Soc., Providence, 1979] on the characterization of  $H^p$  spaces by singular integrals of  $\mathbb{R}^n$  with a nonisotropic metric. Then we apply it to produce singular integral versions of generalized BMO spaces. More precisely, if  $T_\lambda$  is the family of dilations in  $\mathbb{R}^n$  induced by a matrix with a nonnegative eigenvalue, then there exist  $2n$  singular integral operators homogeneous with respect to the dilations  $T_\lambda$  that characterize  $BMO_\varphi$  under a natural condition on  $\varphi$ .

**Keywords:** singular integral, nonisotropic generalized BMO

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