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**David Bate\***, Dept. of Mathematics, University of Chicago, 5734 S. University Avenue, Chicago, IL 60637. *The geometry of Radon Nikodym Lipschitz differentiability spaces.*

We give a purely geometric characterisation of those metric measure spaces that satisfy the differentiability theory of Cheeger for Lipschitz maps into Banach spaces with the Radon-Nikodym property. We will then see that this is also equivalent to satisfying an asymptotic non-homogeneous Poincaré inequality. This is joint work with Sean Li. (Received September 15, 2015)