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**0981.46027****Bastero, J.; Milman, M.; Ruiz, F.J.****Reverse Hölder inequalities and interpolation.** (English)

Brudnyi, Yuri (ed.) et al., Function spaces, interpolation spaces, and related topics. Proceedings of the workshop, Haifa, Israel, June 7-13, 1995. Ramat Gan: Bar-Ilan University/distr. by the American Mathematical Society, Isr. Math. Conf. Proc. 13, 11-23 (1999). [ISSN 0792-4119]

Let  $Q_0$  be a fixed cube with sides parallel to the coordinate axis. A positive measurable function  $w$  defined on  $Q_0$  is said to satisfy a Gehring condition or a reverse Hölder inequality if there exists  $p > 1$  and a constant  $c > 0$ , such that for every cube  $Q \subset Q_0$  with sides parallel to the coordinate axis we have:

$$\left\{ \frac{1}{|Q|} \int_Q w^p(x) dx \right\}^{\frac{1}{p}} \leq c \frac{1}{|Q|} \int_Q w(x) dx.$$

Using a result obtained by *M. Milman*, Ann. Acad. Sci. Fenn., Math. 21, No. 2, 389-398 (1996; [Zbl 0903.42008](#))] a new proof of Gehring lemma is given. The paper present also an interesting connection between the Gehring's lemma and Maurey-Pisier extrapolation.

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*Keywords* : reverse Hölder interpolation; extrapolation; Gehring condition; reverse Hölder inequality; Gehring lemma; Maurey-Pisier extrapolation

*Classification* :\***46B70** Interpolation between normed linear spaces**46M35** Abstract interpolation of topological linear spaces**46E30** Spaces of measurable functions

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