1053-42-244 **D. Aalto** (daniel.aalto@utu.fi), **L. Berkovits** (lberkovi@mail.student.oulu.fi), **O. E. Maasalo** (outi.elina.maasalo@tkk.fi) and **H. Yue*** (yueh@trine.edu). *John-Nirenberg lemma II for a doubling measure.*

In the paper that John and Nirenberg (1961) introduced the BMO space and characterized functions in the space in terms of a related distribution inequality, they also discussed the corresponding issues for functions f being integrable in a given cube Q_0 and satisfying

$$K_f := sup\left\{\sum_i |Q_i|^{1-p}\left[\int_{Q_i}|f-f_{Q_i}|d\mu\right]^p\right\}^{1/p} < \infty \tag{1}$$

where the supremum is taken over all collections $\{Q_i\}_{i=0}^{\infty}$ with Q_i being subcubes of Q_0 such that $\bigcup Q_i = Q_0$ with disjoint interiors. We call the space with the norm defined by (**??**) the John-Nirenberg space with exponent p and denote it by $JN_p(Q_0)$.

The John-Nirenberg lemma II claims that if f is a function in $JN_p(Q_0)$, then $f - f_{Q_0}$ is in weak $L^p(Q_0)$.

We discuss the space JN_p and the lemma in the context of a doubling metric measure space.

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