1067-35-2242 Sharad D Silwal* (sharad@math.ksu.edu), Mathematics Department, 138 Cardwell Hall, Manhattan, KS 66506, Sapto Indratno (sapto@math.ksu.edu), Mathematics Department, 138 Cardwell Hall, Manhattan, KS 66506, and Diego Maldonado (dmaldona@math.ksu.edu), Mathematics Department, 138 Cardwell Hall, Manhattan, KS 66506. The axiomatic approach to Harnack's inequality in doubling quasi-metric spaces. Preliminary report.

We present an alternative approach to the abstract proof of Harnack's inequality in the setting of doubling quasi-metric spaces. This approach, mostly based on the theory of weights, sheds some new light onto the role of the so-called critical density property. This is joint work with Sapto Indratno and Diego Maldonado from KSU. (Received September 22, 2010)