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Marcos D Lopez* (lopezms@mail.uc.edu), 470 Lakeview Drive, 310, Wilder, KY 41071, and
James Gill. *Discretized Metric Measure Spaces of Controlled Geometry.*

In this talk, I will provide a background on Gromov Hausdorff convergence including its measured version, including some important results due to Cheeger and Koskela. I only consider metric spaces with doubling measures that support a Poincaré type inequality, which form an essential class of metric spaces in the study of Sobolev spaces. A method to approximate such a space by a graph will be presented. This method uses maximal epsilon nets, and ensures the persistence of a doubling measure and Poincaré equality on the approximated space. These results are a joint work with James Gill. (Received January 27, 2014)