Characterizations of Ricci Curvature and Second Fundamental Form on Riemannian Manifold

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Abstract. In prior work of Aaron Naber, the uniform bounds of Ricci curvature on a Riemannian manifold are characterized by using functional inequalities with respect to Malliavin gradient on path space. The goal of our talk is twofold: on one side we extend these results to a general Riemannian manifold (possible with boundary). On the other we obtain some similar results if Malliavin gradient is replaced by L^2-gradient.