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Xavier Ramos Olivé, Shoo Seto and Guofang Wei^{*} (wei@math.ucsb.edu), Department of Mathematics, UC Santa Barbara, Santa barbara, CA 93106, and Qi S. Zhang. Zhong-Yang type eigenvalue estimate with integral curvature condition.

Studying eigenvalues of the Laplacian is both important in mathematics and physics. Some classical results are Lichnerowicz and Zhong-Yang estimates for the first nonzero eigenvalue of the Laplacian on closed manifolds with positive and zero Ricci curvature lower bounds. We will discuss extensions of these results to manifolds with integral Ricci curvature lower bound, which is a much weaker condition. This is a joint work with Xavier Ramos Oliver, Shoo Seto and Qi Zhang. (Received January 16, 2019)