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Yuchen Liu* (yuchen.liu@yale.edu), 10 Hillhouse Ave, Department of Mathematics, Yale University, New Haven, CT 06511. *On the semi-continuity problem of normalized volumes of singularities.*

We show that in any \mathbb{Q} -Gorenstein flat family of klt singularities, normalized volumes are lower semi-continuous in the Zariski topology. A quick consequence is that smooth points have the largest normalized volume among all klt singularities. Using an alternative characterization of K-semistability developed by Li, Liu and Xu, we show that K-semistability is a very generic or empty condition in any \mathbb{Q} -Gorenstein flat family of log Fano pairs. This is a joint work with Harold Blum. (Received January 05, 2018)