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Gergely Ambrus. *Longest convex chains.*

Assume X_n is a random sample of n uniform, independent points from a triangle T with vertices A, B, C . A subset $Y \subset X_n$ is a *convex chain* if every point from Y is a vertex of the convex hull of A, C , and Y . A longest convex chain, Y , of X_n is a convex chain with largest cardinality. The length $L_n = |Y|$ of a longest convex chain is a random variable which is a distant relative of the much studied longest increasing subsequence. In this talk we determine the order of magnitude of the expectation of L_n . We show further that L_n is highly concentrated around its mean, and that the longest convex chains have a limit shape. (Received January 13, 2008)