1163-14-482   **Jose Gonzalez*** (`jose.gonzalez@ucr.edu`) and **Zhixian Zhu** (`zhixian.zhu@ucr.edu`).
Generation of jets and Fujita's jet ampleness conjecture on toric varieties.

A line bundle is k-jet ample if it has enough global sections to separate points, tangent vectors, and also their higher order analogues called k-jets. For example, 0-jet ampleness is equivalent to global generation and 1-jet ampleness is equivalent to very ampleness. We give sharp bounds guaranteeing that a line bundle on a projective toric variety is k-jet ample in terms of its intersection numbers with the invariant curves, in terms of the lattice lengths of the edges of its polytope and in terms of the higher concavity of its piecewise linear function. As an application, we prove the k-jet generalizations of Fujita's conjectures on toric varieties with arbitrary singularities. (Received September 08, 2020)