

Identifiability of symmetric tensors and singularity of secants of Veronese varieties

Han, Kangjin

Daegu-Gyeongbuk Institute of Science & Technology (DGIST)

Corresponding Author: Han, Kangjin, kjhan@dgist.ac.kr

ABSTRACT

The tensor product of vector spaces is a basic mathematical object, useful in many applications, including Signal Processing, Phylogenetics and Complexity Theory. The decomposition of a tensor is an expression of the given tensor as the sum of decomposable ones and tensor rank is defined as the minimum number of summands needed to express it. We call a tensor ‘identifiable’ if there exists only decomposition up to trivial scaling and permutations. In this talk we briefly review basic notions and results on symmetric case and figure out how this ‘identifiability’ is related to singularity of secants of Veronese varieties. We also discuss some plausible approaches for further progress, if time allows.