Factorizations of Multilinear Operators via Σ-Operators

Samuel García *CIMAT*

According to resent research of Maite F., every multilinear operator $T : X_1 \times \cdots \times X_n \to Y$ has an associated Σ-operator $f : \Sigma_{X_1 \ldots X_n} \to Y$. New approximations of a wide range of ideal properties of multilinear operators can be stated in terms of Σ-operators. As a result, factorizations of multilinear operators can be obtained. These factorizations are diverse in nature, for instance, multilinear operators that factor through Hilbert or L_p spaces. This new approach of ideal properties leads us to a natural theory of ideals of Σ-operators; moreover, particular tensor norms, named Σ-tensor norms, are naturally involved. In this talk, we will see a few examples of factorizations of multilinear operators and the Σ-tensor norms involved.