Beatrice-Helen Vritsiou* (vritsiou@ualberta.ca). *Regular covering for not necessarily symmetric convex bodies.*

Given a pair of convex bodies K, L, we denote by N(K,L) the covering number of K by L, namely the least number of copies of L needed for their union to contain K. A result by V. Milman, with far-reaching connections in high-dimensional geometry, states that, if one of the two bodies is a Euclidean ball, then we can linearly transform the other one so that it has the same volume and so that both covering numbers N(K,L) and N(L,K) are at most exponential in the dimension (this is optimal as can be seen by specific examples).

An important extension by Pisier, proven only for symmetric convex bodies though, shows that, by taking larger and larger dilates of the covering body in the pair, we will have the covering numbers decrease in a regular way.

We will briefly explain how this result can be extended to the setting of not necessarily symmetric convex bodies (although with quantitatively worse bounds). (Received July 31, 2018)