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Robust clustering methods and trimming: a review

Summary. Unexpected deviations from the assumed hypotheses as well as the presence of certain amount of outlying data are common in most practical statistical applications. This is also the case in Cluster Analysis where those deviations can make the clustering results very unsatisfactory. Moreover, these deviations are not easy to be detected due to clear "masking" effects. Robust Clustering methods are aimed to diminish (and detect) the effect of such deviations. In this talk, we review the progresses made by our research group in Valladolid in this field together with others interesting proposals that can be found in the literature. Several real data applications will be shown where we can see that a trimming approach to Robust Clustering provide sensible clustering results. Finally, we will stress the clear connections between Robust Multivariate Estimation and Clustering which makes Robust Clustering an interesting unifying framework.

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