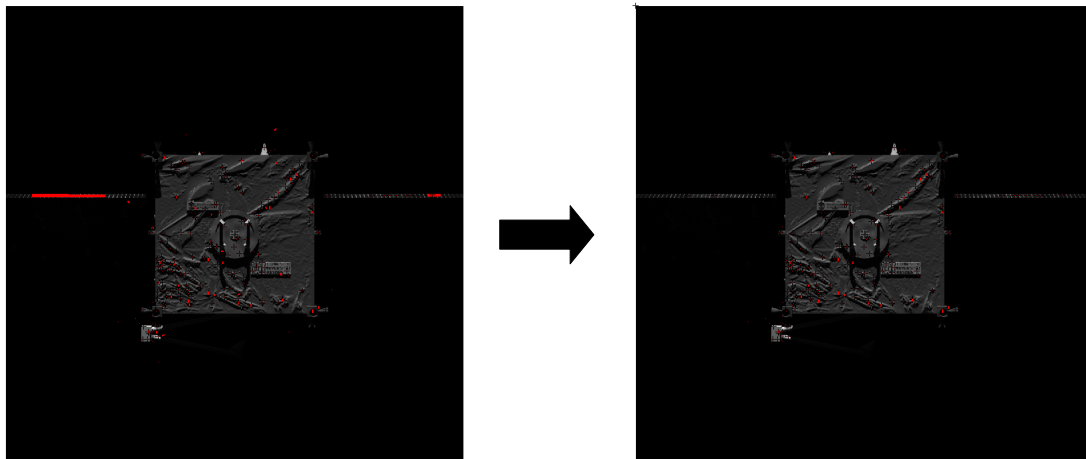




## **Integration of a cluster analysis into an image-based feature framework**

To perform a GNC-system (Guidance, Navigation and Control) based coupling maneuver between two spacecrafts, it is essential to get informations on location and velocity of the target spacecraft. Among other methods, this can be done by visual navigation. In space are some unfavorable external influences which complicates the measurement of reference points. So it is necessary to extract robust interest points for the state estimation. A possible method to deal with the features are clusters instead of individual points. Clusters will get benefits from conclusions about the occurring misinterpretations.

This diploma thesis focuses on the data analysis by cluster algorithms. It was shown that the Single Linkage algorithm worked well to find the outliers in the dataset. An advantage for the calculation time was made by considering former cluster results.



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