Abstract  The Kormendy (1977, KR) relation between the effective radius and the effective surface brightness of early-type galaxies, has been used several times to constrain the models of galaxy luminosity evolution without success. Unfortunately in fact, the data samples required for this analysis must be homogeneous and complete both for high and low redshift clusters. We present today the analysis of the KR for a sample of 735 early-type galaxies members of 20 different nearby clusters. Up to now this is the largest and more complete CCD dataset suited for this study (but WINGS is coming!).

The results of this work indicate that the KR may be the product of a double selection effect due to the existence of the line of avoidance (LoA) and the cut-off in luminosity adopted for the galaxy selection. The ZP and the slope of the KR of the observed clusters have a scatter larger than the expected errors. This large variance is an obstacle to the determination of the galaxy luminosity evolution. A promising alternative method rely on the determination of the average distance of the cluster galaxies from the LoA. This average is approximately the same for all clusters (considering only the bright part of the LF: M_r < -20.0 mag). Unfortunately since the degree of completeness of the cluster LFs is still poorly known, it is not possible to derive any firm conclusions about the true scatter around this average. At present, therefore, the scatter still hampers the determination of the luminosity evolution of galaxies in clusters as a function of redshift.