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Central velocity dispersions of the GAMA spectroscopic database and synergies with KiDS

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KiDS is one of the VST ESO public survey and up to date it has been surveying 450 deg2 of the extragalactic sky.
The three equatorial regions of the Galaxy And Mass Assembly (GAMA) survey (G09, G12, and G15) overlap 180 deg2 surveyed by KiDS. The redshift distribution, for the >300k galaxies in the GAMA sample, ranges between z=0.003 and z=0.9,
with a median value of z=0.21 and a median signal-to-noise ratio SNR=7.3. A synergistic approach to combined photometric and spectroscopic data products allows us to investigate a large variety of science, e.g., from training neural networks for the photometric redshift estimation, to the study of dark matter fraction and scaling relations.
Therefore, we present the kinematic analysis of GAMA galaxy spectra, with the aim of measuring central velocity dispersions.
We made an intensive use of automatic routines which exploit the Penalized Pixel-Fitting method in order to fit the spectra in the restframe wavelength range 3850-6800 Å including in the window several strong absorption lines. We currently produced a velocity dispersion catalogue containing the 80% of the galaxies in the all the fields surveyed by GAMA (including the three overlapping with KiDS), and we present the statistical analysis of the results. We have additionally exploited KiDS and GAMA photometric databases in order to investigate the Faber-Jackson relation for a subsample of spheroid dominated galaxies in the equatorial fields G09, G12, and G15.

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