

## THE TILT OF THE FUNDAMENTAL PLANE OF ELLIPTICAL GALAXIES: DYNAMICAL AND STRUCTURAL EFFECTS

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We explore several structural and dynamical effects on the projected velocity dispersion as possible causes of the fundamental plane (FP) tilt of elliptical galaxies (Ciotti, Lanzoni & Renzini, 1995). Specifically, we determine the size of the systematic trend along the FP in the orbital radial anisotropy, in the dark matter (DM) content and distribution relative to the bright matter, and in the shape of the light profile that would be needed to produce the tilt, under the assumption of a constant stellar mass to light ratio. Spherical, non rotating, two-components models are constructed, where the light profiles resemble the  $R^{1/4}$  law. For these we can exclude orbital anisotropy as the origin of the tilt, while a systematic increase in the DM content and/or concentration may formally produce it. Also a suitable variation of the light profile can produce the desired effect, and there may be some observational hints supporting this possibility. However, fine tuning is always required in order to reproduce the tilt, while preserving the tightness of the galaxies distribution about the FP.

### References

Ciotti L., Lanzoni B., and Renzini A., 1995, submitted to *M.N.R.A.S.*