




GravSphere2: A higher order Jeans method for mass modeling spherical stellar systems (Corrigendum)

Andrés Bañares-Hernández^{1,2,*} , Justin I. Read³ , and Mariana P. Júlio^{4,5} 

¹ Instituto de Astrofísica de Canarias, La Laguna, Tenerife, 38200 Spain

² Departamento de Astrofísica, Universidad de La Laguna, Santa Cruz de Tenerife, Spain

³ Department of Physics, University of Surrey, Guildford, GU2 7XH, UK

⁴ Leibniz-Institut für Astrophysik Potsdam (AIP), An der Sternwarte 16, 14482 Potsdam, Germany

⁵ Institut für Physik und Astronomie, Universität Potsdam, Karl-Liebknecht-Straße 24/25, 14476 Potsdam, Germany

A&A, 705, A212 (2026), <https://doi.org/10.1051/0004-6361/202557195>

Key words. globular clusters: general – galaxies: dwarf – galaxies: kinematics and dynamics – Local Group – errata, addenda

The corresponding author found typographical errors in Equations (17), (18), (20), and (23) of the original paper. The correct equations should read, respectively, as

$$\frac{\partial v_{\star} \langle v_r^2 v_r^2 \rangle}{\partial r} = -\frac{2}{3}(1-\beta') \left[\frac{2\beta'}{r} v_{\star} \langle v_r^4 \rangle + 3v_{\star} \sigma_r^2 \frac{GM}{r^2} \right] - \frac{2}{3} \frac{\partial \beta'}{\partial r} v_{\star} \langle v_r^4 \rangle,$$

$$\langle v_r^4 \rangle(r) = \frac{4}{3} \left[(1-\beta')(2-\beta') - \frac{r}{2} \frac{\partial \beta'}{\partial r} \right] \langle v_r^4 \rangle + 2(\beta' - \beta) \sigma_r^2 \frac{GM}{r},$$

$$F_{\text{LOS}}(r, R) \equiv \left(1 - 2\beta' \frac{R^2}{r^2} + \frac{1}{2}\beta'(1+\beta') \frac{R^4}{r^4} - \frac{1}{4} \frac{\partial \beta'}{\partial r} \frac{R^4}{r^3} \right) \langle v_r^4 \rangle + \frac{3}{4} (\beta' - \beta) \sigma_r^2 GM \frac{R^4}{r^5},$$

and

$$F_{\text{PM},t}(r, R) \equiv \frac{1}{2} \left[(1-\beta')(2-\beta') - \frac{r}{2} \frac{\partial \beta'}{\partial r} \right] \langle v_r^4 \rangle + \frac{3}{4} (\beta' - \beta) \sigma_r^2 \frac{GM}{r}.$$

This did not affect our results and calculations, as it was only an issue that occurred during the transcription process of our original derivations. Additionally, we found and fixed a bug in the original GRAVSPHERE2 code (the GitHub repository has now been updated) in the computation of fourth-order proper motions. However, we verified that this had a negligible impact on our results, including changes in the likelihood and in the robust data recovery in the extensive mock data sample, with which we tested our modeling pipeline.

* Corresponding author: a.banareshernandez@gmail.com