



HAL
open science

Precise calibration of the dependence of surface brightness–colour relations on colour and class for late-type stars★ (Corrigendum)

A. Salsi, N. Nardetto, D. Mourard, O. Creevey, D. Huber, T. R. White, V. Houdé, F. Morand, I. Tallon-Bosc, C. D. Farrington, et al.

► To cite this version:

A. Salsi, N. Nardetto, D. Mourard, O. Creevey, D. Huber, et al.. Precise calibration of the dependence of surface brightness–colour relations on colour and class for late-type stars★ (Corrigendum). *Astronomy and Astrophysics - A&A*, 2020, 641, pp.C3. 10.1051/0004-6361/202038012e . hal-02946115

HAL Id: hal-02946115

<https://hal.science/hal-02946115>

Submitted on 22 Sep 2020

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Precise calibration of the dependence of surface brightness–colour relations on colour and class for late-type stars^{*} (Corrigendum)

A. Salsi¹, N. Nardetto¹, D. Mourard¹, O. Creevey¹, D. Huber², T. R. White^{3,4,5}, V. Houdé¹, F. Morand¹, I. Tallon-Bosc⁶, C. D. Farrington⁷, A. Chelli¹, and G. Duvert⁸

¹ Université Côte d’Azur, OCA, CNRS, Laboratoire Lagrange, France
e-mail: anthony.salsi@oca.eu

² Institute for Astronomy, University of Hawaii, 2680 Woodlawn Drive, Honolulu, HI 96822, USA

³ Sydney Institute for Astronomy, School of Physics A28, The University of Sydney, NSW 2006, Australia

⁴ Stellar Astrophysics Centre, Department of Physics and Astronomy, Aarhus University, 8000 Aarhus C, Denmark

⁵ Research School of Astronomy and Astrophysics, Mount Stromlo Observatory, The Australian National University, Canberra, ACT 2611, Australia

⁶ Univ. Lyon, Univ. Lyon 1, Ens de Lyon, CNRS, Centre de Recherche Astrophysique de Lyon UMR5574, 69230 Saint-Genis-Laval, France

⁷ The CHARA Array, Mount Wilson Observatory, Mount Wilson CA91023, USA

⁸ Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France

A&A 640, A2 (2020), <https://doi.org/10.1051/0004-6361/202038012>

Key words. techniques: interferometric – stars: atmospheres – stars: late-type – stars: fundamental parameters – errata, addenda

In the original paper, Salsi et al. (2020), there is a mistake in the calculation of the uncertainty on the angular diameter estimate. Equation (8) should be written as follows:

$$\sigma_{\theta_{LD,a,b,phot}} = 2 \ln(10) \theta_{LD} \sqrt{\sigma_{\theta_{LD,a,b}}^2 + \sigma_{\theta_{LD,phot}}^2}. \quad (1)$$

The photometric part of the uncertainty, $\sigma_{\theta_{LD,phot}}$ (Eq. (10) in the paper), also contains an error. The correct formula is following:

$$\sigma_{\theta_{LD,phot}} = \sqrt{(0.1 + a)^2 \sigma_V^2 + a^2 \sigma_K^2 + (0.1 + 0.881a)^2 \sigma_{A_V}^2}. \quad (2)$$

Only considering arbitrary uncertainties of 0.022 mag on both V and K magnitudes leads to a precision of 1.30% on the angular diameter, and not 1.70% as indicated in the paper. The conclusions in the paper remain unchanged.

References

Salsi, A., Nardetto, N., Mourard, D., et al. 2020, *A&A*, 640, A2

* Based on CHARA/VEGA observations.