

The LEECH Exoplanet Imaging Survey. Further constraints on the planet architecture of the HR 8799 system[★] (Corrigendum)

A.-L. Maire¹, A. J. Skemer^{2,★★}, P. M. Hinz², S. Desidera¹, S. Esposito³, R. Gratton¹, F. Marzari⁴, M. F. Skrutskie⁵, B. A. Biller^{6,7}, D. Defrère², V. P. Bailey², J. M. Leisenring², D. Apai², M. Bonnefoy^{8,9,7}, W. Brandner⁷, E. Buenzli⁷, R. U. Claudi¹, L. M. Close², J. R. Crepp¹⁰, R. J. De Rosa^{11,12}, J. A. Eisner², J. J. Fortney¹³, T. Henning⁷, K.-H. Hofmann¹⁴, T. G. Kopytova^{7,15}, J. R. Males^{2,★★★}, D. Mesa¹, K. M. Morzinski^{2,★★★}, A. Oza⁵, J. Patience¹¹, E. Pinna³, A. Rajan¹¹, D. Schertl¹⁴, J. E. Schlieder^{7,16,★★★★}, K. Y. L. Su², A. Vaz², K. Ward-Duong¹¹, G. Weigelt¹⁴, and C. E. Woodward¹⁷

¹ INAF–Osservatorio Astronomico di Padova, Vicolo dell’Osservatorio 5, 35122 Padova, Italy
e-mail: annelise.maire@oapd.inaf.it

² Steward Observatory, Department of Astronomy, University of Arizona, 993 North Cherry Avenue, Tucson, AZ 85721, USA

³ INAF–Osservatorio Astrofisico di Arcetri, Largo E. Fermi 5, 50125 Firenze, Italy

⁴ Dipartimento di Fisica e Astronomia, Università di Padova, via F. Marzolo 8, 35131 Padova, Italy

⁵ Department of Astronomy, University of Virginia, Charlottesville, VA 22904, USA

⁶ Institute for Astronomy, University of Edinburgh, Blackford Hill, Edinburgh EH9 3HJ, UK

⁷ Max-Planck-Institut für Astronomie, Königstuhl 17, 69117 Heidelberg, Germany

⁸ Université Grenoble Alpes, IPAG, 38000 Grenoble, France

⁹ CNRS, IPAG, 38000 Grenoble, France

¹⁰ Department of Physics, University of Notre Dame, 225 Nieuwland Science Hall, Notre Dame, IN 46556, USA

¹¹ Arizona State University, School of Earth and Space Exploration, PO Box 871404, Tempe, AZ 85287-1404, USA

¹² Astrophysics group, School of Physics, University of Exeter, Stocker Road, Exeter EX4 4QL, UK

¹³ Department of Astronomy and Astrophysics, University of California Santa Cruz, Santa Cruz, CA 95064, USA

¹⁴ Max-Planck-Institut für Radioastronomie, Auf dem Hügel 69, 53121 Bonn, Germany

¹⁵ International Max Planck Research School for Astronomy and Space Physics, Heidelberg, Germany

¹⁶ NASA Ames Research Center, M.S. 245-6, Moffett Field, CA 94035, USA

¹⁷ Minnesota Institute for Astrophysics, University of Minnesota, 116 Church Street, SE, Minneapolis, MN 55455, USA

A&A 576, A133 (2015), DOI: 10.1051/0004-6361/201425185

Key words. stars: individual: HR 8799 – planetary systems – instrumentation: adaptive optics – techniques: high angular resolution – methods: data analysis – errata, addenda

Appendix A: Distortion correction

To measure the distortion effects of the LMIRCam camera, we used the IDL procedure `polywarp`, which performs polynomial fitting for a given order that includes higher-order terms. The higher-order coefficients were omitted in the published paper. We give all the distortion coefficients in Table A.1. We also provide the correct Eqs. (A.1) and (A.2). The distortion correction was applied using the IDL routine `poly_2d`.

$$\begin{aligned} x' = & a_0 + a_1(x - x_0) + a_3(x - x_0)^2 + a_6(x - x_0)^3 \\ & + a_2(y - y_0) + a_4(x - x_0)(y - y_0) + a_7(x - x_0)^2(y - y_0) \\ & + a_5(y - y_0)^2 + a_8(x - x_0)(y - y_0)^2 + a_9(y - y_0)^3 \\ & + a_{10}(x - x_0)^3(y - y_0) + a_{13}(x - x_0)^3(y - y_0)^2 \\ & + a_{12}(x - x_0)(y - y_0)^3 + a_{14}(x - x_0)^2(y - y_0)^3 \\ & + a_{11}(x - x_0)^2(y - y_0)^2 + a_{15}(x - x_0)^3(y - y_0)^3, \end{aligned} \quad (\text{A.1})$$

$$\begin{aligned} y' = & b_0 + b_1(x - x_0) + b_3(x - x_0)^2 + b_6(x - x_0)^3 \\ & + b_2(y - y_0) + b_4(x - x_0)(y - y_0) + b_7(x - x_0)^2(y - y_0) \\ & + b_5(y - y_0)^2 + b_8(x - x_0)(y - y_0)^2 + b_9(y - y_0)^3 \\ & + b_{10}(x - x_0)^3(y - y_0) + b_{13}(x - x_0)^3(y - y_0)^2 \\ & + b_{12}(x - x_0)(y - y_0)^3 + b_{14}(x - x_0)^2(y - y_0)^3 \\ & + b_{11}(x - x_0)^2(y - y_0)^2 + b_{15}(x - x_0)^3(y - y_0)^3. \end{aligned} \quad (\text{A.2})$$

* The LBT is an international collaboration among institutions in the United States, Italy and Germany. LBT Corporation partners are: The University of Arizona on behalf of the Arizona university system; Istituto Nazionale di Astrofisica, Italy; LBT Beteiligungsgesellschaft, Germany, representing the Max-Planck Society, the Astrophysical Institute Potsdam, and Heidelberg University; The Ohio State University, and The Research Corporation, on behalf of The University of Notre Dame, University of Minnesota, and University of Virginia.

** Hubble Fellow.

*** NASA Sagan Fellow.

**** NASA Postdoctoral Program Fellow.

Table A.1. Coefficients of the distortion solution for the LMIRCam camera.

a_i	-2.148	1.011	5.814e-3	-2.116e-5	-2.383e-5	-7.640e-6	1.298e-8	5.312e-8	2.846e-8	2.536e-9
	-4.125e-11	-6.632e-11	-9.321e-12	5.164e-14	2.289e-14	-1.599e-17				
b_i	9.272	-1.362e-2	0.988	1.131e-5	-3.953e-5	4.351e-6	1.628e-9	6.713e-8	8.120e-8	9.345e-9
	-2.772e-11	-1.653e-10	-5.205e-11	8.212e-14	1.066e-13	-5.370e-17				