

List of published scientific works and achievements (2nd July, 2018)

I. A list of scientific papers.

- A. Title of scientific achievement: **Eclipsing binary stars as unique astrophysical tool and laboratory.**
- B. Papers documenting the scientific achievement (citations according to NASA ADS):

1. **Graczyk, D.**, Pietrzyński, G., Thompson, I. B., Gieren, W., Pilecki, B., Konorski, P., Udalski, A., Soszyński, I., Villanova, S., Górski, M., Suchomska, K., Karczmarek, P., Kudritzki, R.-P., Bresolin, F., Gallenne, A., 2014, ApJ, 780, 59, "*The Araucaria Project. The Distance to the Small Magellanic Cloud from late-type eclipsing binaries*", citations=80, impact factor=5.993 (**H1**)

I led research on this subject. I did part of spectroscopic and photometric observations. I calculated models of all systems and I derived distance to the SMC. I wrote almost all the text (with exception of parts of sections 1, 2 and subsection 3.4) and I prepared all figures and tables. I estimate my participation as of 65 per cent.

2. Helminiak, K. G., **Graczyk, D.**, Konacki, M., Pilecki, B., Ratajczak, M., Pietrzyński, G., Sybilski, P., Villanova, S., Gieren, W., Pojmański, G., Konorski, P., Suchomska, K., Reichart, D. E., Ivarsen, K. M., Haislip, J. B., LaCluyze, A. P., 2015, MNRAS, 448, 1945, "*Orbital and physical parameters of eclipsing binaries from the ASAS catalogue - VIII. The totally eclipsing double-giant system HD 187669*", citations=17, impact factor=4.952 (**H2**)

I led research on behalf of the Araucaria Team (B.P., G.P., S.V., W.G., P.K., K.S.) and I coordinated work with group led by K. Helminiak, I participated in taking spectroscopic observations, I calculated full eclipsing binary model of the system and I wrote part of the manuscript (subsections 3.1.2, 3.3.1, 3.5, 4.1 and part of 4.3) and I prepared some tables (4, 7 and part of 8 and 9) and my calculations were used to prepare some figures (1, 2 and 4). I estimate my participation as of 30%.

3. **Graczyk, D.**, Smolec, R., Pavlovski, K., Southworth, J., Pietrzyński, G., Maxted, P. F. L., Konorski, P., Gieren, W., Pilecki, B., Taormina, M., Suchomska, K., Karczmarek, P., Górski, M., Wielgórski, P., Anderson, R. I., 2016, A&A, 594, A92, "*A solar twin in the eclipsing binary LL Aquarii*", citations=4, impact factor=5.014 (**H3**)

I led research on the topic. I discovered that the system contains a solar twin. I did part of spectroscopic observations. I calculated model of the system and final physical parameters, I wrote most of the text (with exception of subsection 3.3 and section 5), I prepared some of figures (1, 2 and 3) and most of tables (1, 2, 4, 5, 6 and 7). I estimate my contribution as of 60 per cent.

4. **Graczyk, D.**, Konorski, P., Pietrzyński, G., Gieren, W., Storm, J., Nardetto, N., Gallenne, A., Maxted, P. F. L., Kervella, P., Kołaczkowski, Z., 2017, ApJ, 837, 7, "*The Surface Brightness-color Relations Based on Eclipsing Binary Stars: Toward Precision Better than 1% in Angular Diameter Predictions*", citations=6, impact factor=5.533 (**H4**)

I led research on the subject. I did almost all calculations, I wrote all the text and I prepared all tables and figures. I estimate my participation as of 90 per cent.

II. A list of remaining scientific papers (not mentioned in paragraph I) and scientific impact.

A. Scientific papers from Journal Citation Reports (JRC) database (citations according to NASA ADS):

1. Gallenne, A., Pietrzyński, G., **Graczyk, D.**, Nardetto, N., Merand, A., Kervella, P., Gieren, W., Villanova, S., Mennickent, R. E., Pilecki, B., 2018, arXiv:1806.09572, accepted in A&A, "*Fundamental properties of red-clump stars from long-baseline H-band interferometry*", citations=0, impact factor=5,014

I determined interstellar extinction to each of the stars, I calculated their effective temperatures and collected optical photometry used in the paper. I estimate my contribution as of 14%

2. Pilecki, B., Gieren, W., Pietrzyński, G., Thompson, I. B., Smolec, R., **Graczyk, D.**, Taormina, M., Udalski, A., Storm, J., Nardetto, N., Gallenne, A., Kervella, P., Soszyński, I., Górski, M., Wielgórski, P., Suchomska, K., Karczmarek, P., Zgirski, B., 2018, arXiv:1806.01391, accepted in ApJ, "*The Araucaria Project: High-precision Cepheid astrophysics from the analysis of variables in double-lined eclipsing binaries*", citations=0, impact factor=5,533

I took some spectroscopic and photometric observations, I did some preliminary analysis of photometry, I discussed results of the work. I estimate my contribution as of 4%.

3. **Graczyk, D.**, Pietrzyński, G., Thompson, I. B., Gieren, W., Pilecki, B., Konorski, P., Villanova, S., Górski, M., Suchomska, K., Karczmarek, P., Stępień, K., Storm, J., Taormina, M., Kołaczkowski, Z., Wielgórski, P., Narloch, W., Zgirski, B., Gallenne, A., Ostrowski, J., Smolec, R., Udalski, A., Soszyński, I., Kervella, P., Nardetto, N., Szymański, M. K., Wyrzykowski, Ł., Ulaczyk, K., Poleski, R., Pietrukowicz, P., Kozłowski, S., Skowron, J., Mróz, P., 2018, ApJ, 860, 1, "*The Late-type Eclipsing Binaries in the Large Magellanic Cloud: Catalog of Fundamental Physical Parameters*", citations=0, impact factor=5,533

I took some spectroscopic and photometric observations, I determined radial velocities of stars, I calculated models for all 20 eclipsing binary stars, determined their radial velocities, made all figures and tables, and I wrote all manuscript. I estimate my contribution as of 70%.

4. Zgirski, B., Gieren, W., Pietrzyński, G., Karczmarek, P., Górski, M., Wielgórski, P., Narloch, W., **Graczyk, D.**, Kudritzki, R.-P., Bresolin, F., 2017, ApJ, 847, 88, "*The Araucaria Project. The Distance to the Sculptor Group Galaxy NGC 7793 from Near-infrared Photometry of Cepheid Variables*", citations=0, impact factor=5.533

I discussed final results of the paper. I estimate my contribution as of 1%.

5. Wielgórski, P., Pietrzyński, G., Gieren, W., Górski, M., Kudritzki, R.-P., Zgirski, B., Bresolin, F., Storm, J., Matsunaga, N., **Graczyk, D.**, Soszyński, I., 2017, ApJ, 842, 116, "*A Precision Determination of the Effect of Metallicity on Cepheid Absolute Magnitudes in VIJHK Bands from Magellanic Cloud Cepheids*", citations=5, impact factor=5.533

I determined a distance difference between both the Magellanic Clouds and its uncertainty. I discussed extensively final results of the paper. I estimate my contribution as of 5%.

6. Nardetto, N., Poretti, E., Rainer, M., Fokin, A., Mathias, P., Anderson, R. I., Gallenne, A., Gieren, W., **Graczyk, D.**, Kervella, P., Merand, A., Mourard, D., Neilson, H., Pietrzyński, G., Pilecki, B., Storm, J., 2017, A&A, 597, 73, "*HARPS-N high spectral resolution observations of Cepheids I. The Baade-Wesselink projection factor of δ Cep revisited*", citations=14, impact factor=5.014

I discussed results of the paper. I estimate my contribution as of 1%.

7. Nardetto, N., Merand, A., Mourard, D., Storm, J., Gieren, W., Fouque, P., Gallenne, A., **Graczyk, D.**, Kervella, P., Neilson, H., Pietrzyński, G., Pilecki, B., Breitsfelder, J., Berio, P., Challouf, M., Clausse, J.-M., Ligi, R., Mathias, A., Perraut, K., Poretti, E., Rainer, M., Spang, A., Stee, P., Tallon-Bosc, I., ten Brummelaar, T., 2016, A&A, 593, 45, "*VEGA/CHARA interferometric observations of Cepheids. I. A resolved structure around the prototype classical Cepheid δ Cep in the visible spectral range*", citations=5, impact factor=5.014

I discussed results of the paper. I estimate my contribution as of 1%.

8. Elgueta, S. S., **Graczyk, D.**, Gieren, W., Pietrzyński, G., Thompson, I. B., Konorski, P., Pilecki, B., Villanova, S., Udalski, A., Soszyński, I., Suchomska, K., Karczmarek, P., Górski, M., Wielgórski, P., 2016, AJ, 152, 29, "*The Orbital and Physical Parameters, and the Distance of the Eclipsing Binary System OGLE-LMC-ECL-25658 in the Large Magellanic Cloud*", citations=6, impact factor=2.609

I supervised work of Miss Elgueta. I took some spectroscopic and photometric observations, I wrote part of the text, I prepared some of figures and most of tables. I estimate my contribution as of 40%.

9. Górski, M., Pietrzyński, G., Gieren, W., Catelan, M., Pilecki, B., Karczmarek, P., Suchomska, K., **Graczyk, D.**, Konorski, P., Zgierski, B., Wielgórski, P., 2016, AJ, 151, 167, "*The Araucaria Project: On the Tip of the Red Giant Branch Distance Determination to the Magellanic Clouds.*", citations=4, impact factor=2.609

I took some photometric observations. I estimate my contribution as of 2%.

10. Garrido, H. E., Mennickent, R. E., Djurasevic, G., Schmidtbreick, L., **Graczyk, D.**, Villanova, S., Barria, D., 2016, MNRAS, 457, 1675, "*On the eclipsing binary ELHC 10 with occulting dark disc in the Large Magellanic Cloud*", citations=1, impact factor=4.729

I took some spectra and I discussed results of the paper. I estimate my contribution as of 4%.

11. Gallenne, A., Pietrzyński, G., **Graczyk, D.**, Konorski, P., Kervella, P., Merand, A., Gieren, W., Anderson, R. I., Villanova, S., 2016, A&A, 586, 35, "*The Araucaria Project: High-precision orbital parallax and masses of the eclipsing binary TZ Fornacis*", citations=11, impact factor=5.014

I took some spectroscopic observations, I disentangled spectra of the system and I calculated radial velocities, I did a preliminary test of existing the surface brightness-color calibrations. I wrote part of the text and I prepared some figures. I estimate my contribution as of 25%.

12. Gieren W., Pilecki, B., Pietrzyński, G., **Graczyk, D.**, Udalski, A., Soszyński, I., Thompson, I. B., Prada Moroni, P. G., Smolec, R., Konorski, P., Górski, M., Karczmarek, P., Suchomska, K., Taormina, M., Gallenne, A., Storm, J., Bono, G., Catelan, M., Szymański, M., Kozłowski, S., Pietrukowicz, P., Wyrzykowski, Ł., Poleski, R., Skowron, J., Minniti, D., Ulaczyk, K., Mróz, P., Pawlak, M., Nardetto, N., 2015, ApJ, 815, 28, "*The Araucaria Project: A Study of the Classical Cepheid in the Eclipsing Binary System OGLE LMC562.05.9009 in the Large Magellanic Cloud*", citations=22, impact factor=5.91

I took some spectroscopic and photometric observations, I calculated spectroscopic orbit of the system and I wrote part of the text. I estimate my contribution as of 15%.

13. Karczmarek, P., Pietrzyński, G., Gieren, W., Suchomska, K., Konorski, P., Górski, M., Pilecki B., **Graczyk, D.**, Wielgórski, P., 2015, AJ, 150, 90, "*The Araucaria Project: The Distance to*

the Carina Dwarf Galaxy from Infrared Photometry of RR Lyrae Stars", citations=5, impact factor=4.617

I took some NIR photometry and discussed results of the paper. I estimate my contribution as of 3%.

14. **Graczyk, D.**, Maxted P. F. L., Pietrzyński, G., Pilecki, B., Konorski, P., Gieren, W., Storm, J., Gallenne, A., Anderson, R. I., Suchomska, K., West, R. G., Pollacco, D., Faedi, F., Pojmański, G., 2015, A&A, 581, 106, "*The Araucaria project. Precise physical parameters of the eclipsing binary IO Aquarii*", citations=3, impact factor=5.185

I was leading the investigation of IO Aqr. I took some spectroscopic observations and I calculated full model of the system and I formulated conclusions. I wrote most of the text and I prepared most of tables and all figures. I estimate my contribution as of 60%.

15. Suchomska, K., **Graczyk, D.**, Smolec, R., Pietrzyński, G., Gieren, W., Stępień, K., Konorski, P., Pilecki, B., Villanova, S., Thompson, I. B., Górski, M., Karczmarek, P., Wielgórski, P., Anderson, R. I., 2015, MNRAS, 451, 651, "*The Araucaria Project: accurate stellar parameters and distance to evolved eclipsing binary ASAS J180057-2333.8 in Sagittarius Arm*", citations=11, impact factor=4.952

I was supervising work of mgr K. Suchomska, I took some spectroscopic and photometric observation, I wrote some parts of the text and I performed a part of calculations. I estimate my contribution as of 30%.

16. Challouf, M., Nardetto, N., Domiciano de Souza, A., Mourand, D., Aroui, H., Stee, P., Delaa, O., **Graczyk, D.**, Pietrzyński, G., Gieren, W., 2015, A&A, 579, 107, "*Theoretical impact of fast rotation on calibrating the surface brightness-color relation for early-type stars*", citations=1, impact factor=5.185

My part was to discuss results of the paper. I estimate my participation as of 1%.

17. Pilecki, B., **Graczyk, D.**, Gieren, W., Pietrzyński, G., Thompson, I. B., Smolec, R., Udalski, A., Soszyński, I., Konorski, P., Taormina, M., Gallenne, A., Minniti, D., Catelan, M., 2015, ApJ, 806, 29, "*The Araucaria Project: the First-overtone Classical Cepheid in the Eclipsing System OGLE-LMC-CEP-2532*", citations=15, impact factor=5.91

I took some spectroscopic and photometric observations, I calculated spectroscopic orbit and some physical parameters of the system. I wrote some parts of the text and some tables. I estimate my participation as of 20%.

18. Challouf, M., Nardetto, N., Mourard, D., **Graczyk, D.**, Aroui, H., Chesneau, O., Delaa, O., Pietrzyński, G., Gieren, W., Ligi, R., Meilland, A., Perraut, K., Tallon-Bosc, I., McAlister, H., ten Brummelaar, T., Sturmann, J., Sturmann, L., Turner, N., Farrington, C., Vargas, N., Scott, N., 2014, A&A, 570, 104, "*Improving the surface brightness-color relation for early-type stars using optical interferometry*", citations=13, impact factor=4.378

I participated in preparing list of targets, I calculated interstellar extinction, I participated in analysis of physical parameters of stars and discussion of the results. I estimate my participation as of 9%.

19. Barria, D., Mennickent, R. E., **Graczyk, D.**, Kołaczowski, Z., 2014, A&A, 567, 140, "*Exploring the long-term variability and evolutionary stage of the interacting binary DQ Velorum*", citations=4, impact factor=4.378

I took part of spectroscopic observations and their reduction. I estimate my participation as of 8%.

20. Gieren, W., Pilecki, B., Pietrzyński, G., **Graczyk, D.**, Thompson, I. B., Soszyński, I., Konorski, P., Smolec, R., Udalski, A., Nardetto, N., Bono G, Prada Moroni, P. G., Storm, J., Gallenne, A., 2014, ApJ, 786, 80, " *The Araucaria Project. OGLE-LMC-CEP-1718: An Exotic Eclipsing Binary System Composed of Two Classical Overtone Cepheids in a 413 Day Orbit*", citations=21, impact factor=5.993

I participated in taking photometric and spectroscopic observations and writing part of the text. I estimate my participation as of 8%.

21. Pilecki, B., **Graczyk, D.**, Pietrzyński, G., Gieren, W., Thompson, I. B., Freedman, W. L., Scowcroft, V., Madore, B. F., Udalski, A., Soszyński, I., Konorski, P., Smolec, R., Nardetto, N., Bono, G., Prada Moroni, P. G., Storm, J., Gallenne, A., 2013, MNRAS, 436, 953, "Physical parameters and the projection factor of the classical Cepheid in the binary system OGLE-LMC-CEP-0227", citations=44, impact factor=5.226 (H1)

My part in this work was collaboration in developing strategy for modeling of the system, especially introduction p-factor as additional parameter of the model fit, derivation algebraic formulae for the surface-brightness changes and the light time effect, derivation of spectroscopic orbit of the system, consistency checks of the final physical parameters. I wrote part of the manuscript (parts of sections 1, 2, subsections 3.3, 3.4, 3.6, 4.1, parts of subsections 4.3, 4.4, 4.6 and section 5) and I prepared some figures and tables (figures: 5, 6, 7 and 15; tables: 4, 5 and part of 6). I estimate my participation as of 30 per cent

22. Pietrzyński, G., **Graczyk, D.**, Gieren, W., Thompson, I. B., Pilecki, B., Udalski, A., Soszyński, I., Kozłowski, S., Konorski, P., Suchomska, K., Bono, G., Prada Moroni, P. G., Villanova, S., Nardetto, N., Bresolin, F., Kudritzki, R.-P., Storm, J., Gallenne, A., Smolec, R., Minniti, D., Kubiak, M., Szymański, M. K., Poleski, R., Wyrzykowski, Ł., Ulaczyk, K., Pietrukowicz, P., Górski, M., Karczmarek, P., 2013, Nature, 495, 76, "An eclipsing-binary distance to the Large Magellanic Cloud accurate to two per cent", citations=297, impact factor=42.35

My part in this work was developing details of observing and modelling strategy of eclipsing binaries in the LMC. I developed some details of the method used for distance determination, selected best targets for the project. I participated in collecting some data. I calculated eclipsing binary models for all targets, determined absolute dimensions and discussed final results. I wrote a part of the manuscript and prepared some figures and tables. I estimate my participation as of 35%.

23. Pawlak, M., **Graczyk, D.**, Soszyński, I., Pietrukowicz, P., Poleski, R., Udalski, A., Szymański, M. K., Kubiak, M., Pietrzyński, G., Wyrzykowski, Ł., Ulaczyk, K., Kozłowski, S., Skowron, J., 2013, AcA, 63, 323, "Eclipsing Binary Stars in the OGLE-III Fields of the Small Magellanic Cloud Eclipsing Binary Stars in the OGLE-III Fields of the Small Magellanic Cloud", citations = 43, impact factor = 1.96

My part in this work was developing numerical code for eclipsing binary search and identification, and also drawing some conclusions. I estimate my participation as of 10 per cent.

24. Gieren, W., Górski, M., Pietrzyński, G., Konorski, P., Suchomska, K., **Graczyk, D.**, Pilecki, B., Bresolin, F., Kudritzki, R.-P., Storm, J., Karczmarek, P., Gallenne, A., Calderón, P., Geisler, D., 2013, ApJ, 773, 69, "The Araucaria Project. A Distance Determination to the

Local Group Spiral M33 from Near-Infrared Photometry of Cepheid Variables", citations = 25, impact factor = 6.28

My part in this work was collecting some photometric data in infrared. I estimate my participation as of 2 %.

25. Marconi, M., Molinaro, R., Bono, G., Pietrzyński, G., Gieren, W., Pilecki, B., Stellingwerf, R. F., **Graczyk, D.**, Smolec, R., Konorski, P., Suchomska, K., Górski, M., Karczmarek, P., 2013, ApJL, 768, 6, "*The Eclipsing Binary Cepheid OGLE-LMC-CEP-0227 in the Large Magellanic Cloud: Pulsation Modeling of Light and Radial Velocity Curves*", citations = 28, impact factor = 6.73

My part in this work was calculating eclipsing binary model of the system and subtracting companion's contribution in the pulsating light curve. I estimate my participation as of 5 per cent.

26. Nardetto, N., Mathias, P., Fokin, A., Chapellier, E., Pietrzyński, G., Gieren, W., **Graczyk, D.**, Mourard, D., 2013, A&A, 553, 112, "*Understanding the dynamical structure of pulsating stars: The center-of-mass velocity and the Baade-Wesselink projection factor of the β Cephei star α Lupi*", citations=8, impact factor = 4.48

My part in this work was collecting some spectroscopic data and discussing final results. I estimate my participation as of 2 per cent.

27. Smolec, R., Pietrzyński, G., **Graczyk, D.**, Pilecki, B., Gieren, W., Thompson, I. B., Stępień, K., Karczmarek, P., Konorski, P., Górski, M., Suchomska, K., Bono, G., Prada Moroni, P. G., Nardetto, N., 2013, MNRAS, 428, 3034, "*Pulsation models for the $0.26 M_{\odot}$ star mimicking RR Lyrae pulsator. Model survey for the new class of variable stars*", citations=22, impact factor=5.23

My part in this work was calculating eclipsing binary model of the system and removing a light contribution from a companion star. I estimate my participation as of 5 per cent.

28. Gałan, C., Tomov, T., Kato, T., Pojmański, G., Szczygieł, D. M., Pilecki, B., **Graczyk, D.**, Gromadzki, M., Gieren, W., Strobel, A., Roukema, B. F., 2013, A&A, 550, 93, "*A new look at the long-period eclipsing binary V383 Scorpi*", citations=2, impact factor=4.48

My part in this work was collecting some spectroscopic data and discussing of final results. I estimate my participation as of 4 per cent.

29. Gałan, C., Mikołajewski, M., Tomov, T., **Graczyk, D.**, Apostolovska, G., Barzova, I., Bellas-Velidis, I., Bilkina, B., Blake, R. M., Bolton, C. T., Bondar, A., Brat, L., Brożek, T., Budzisz, B., Cikała, M., Csak, B., Dapergolas, A., Dimitrov, D., Dobierski, P., Drahus, M., Drózd, M., Dvorak, S., Elder, L., Frąckowiak, S., Galazutdinov, G., Gazeas, K., Georgiev, L., Gere, B., Goździewski, K., Grinin, V. P., Gromadzki, M., Hajduk, M., Heraz, T. A., Hopkins, J., Iliev, I., Janowski, J., Kocian, R., Kołaczkowski, Z., Kolev, D., Kopacki, G., Krześciński, J., Kucakova, H., Kuligowska, E., Kundera, T., Kurpińska-Winiarska, M., Kuźmich, A., Liakos, A., Lister, T. A., Maciejewski, G., Majcher, A., Majewska, A., Marrese, P. M., Michalska, G., Migaszewski, C., Miller, I., Munari, U., Musaev, F., Myers, G., Narwid, A., Nemeth, P., Niarchos, P., Niemczura, E., Ogłóza, W., Ogmen, Y., Oksanen, A., Osiwała, J., Peneva, S., Pigulski, A., Popov, V., Pych, W., Pye, J., Ragan, E., Roukema, B. F., Różański, P. T., Semkov, E., Siwak, M., Staels, B., Stateva, I., Stempels, H. C., Stęślicki, M., Świerczyński, E., Szymański, T., Tomov, N., Waniak, W., Więcek, M., Winiarski, M., Wychudźki, P., Zajczyk, A., Zoła, S., Zwitter, T., 2012, A&A, 544, 53, "*International observational*

campaigns of the last two eclipses in EE Cephei: 2003 and 2008/9", citations=16, impact factor=5.08

My part in this work was discussing comprehensively the manuscript. I estimate my participation as of 3 per cent.

30. **Graczyk, D.**, Pietrzyński, G., Thompson, I. B., Gieren, W., Pilecki, B., Udalski, A., Soszyński, I., Kołaczowski, Z., Kudritzki, R.-P., Bresolin, F., Konorski, P., Mennickent, R., Minniti, D., Storm, J., Nardetto, N., Karczmarek, P., 2012, *ApJ*, 750, 144, "*The Araucaria Project: An Accurate Distance to the Late-type Double-lined Eclipsing Binary OGLE SMC113.3 4007 in the Small Magellanic Cloud*", citations=24, impact factor=6.73

I coordinated work on this paper. I collected some spectroscopic and photometric observations, elaborated details of the method used for distance determination, calculated absolute dimensions. I write most of the manuscript, prepared all figures and tables, and draw final conclusions. I estimate my participation as of 60 per cent.

31. Pietrzyński, G., Thompson, I. B., Gieren, W., **Graczyk, D.**, Stępień, K., Bono, G., Prada Moroni, P. G., Pilecki, B., Udalski, A., Soszyński, I., Preston, G. W., Nardetto, N., McWilliam, A., Roederer, I. U., Górski, M., Konorski, P., Storm, J., 2012, *Nature*, 484, 75, "*RR-Lyrae-type pulsations from a 0.26-solar-mass star in a binary system*", citations=70, impact factor=38.60

My part in this work was calculating eclipsing binary model and absolute dimensions of the system, collecting some spectroscopic data and discussing final results. I estimate my participation as of 12 per cent.

32. Prada Moroni, P. G., Gennaro, M., Bono, G., Pietrzyński, G., Gieren, W., Pilecki, B., **Graczyk, D.**, Thompson, I. B., 2012, *ApJ*, 749, 108, "*On the Evolutionary and Pulsation Mass of Classical Cepheids. III. The Case of the Eclipsing Binary Cepheid CEP0227 in the Large Magellanic Cloud*", citations=41, impact factor=6.73

My part in this work was calculating eclipsing binary model. I estimate my participation as of 4 per cent.

33. Pietrzyński, G., Thompson, I. B., **Graczyk, D.**, Gieren, W., Pilecki, B., Udalski, A., Soszyński, I., Bono, G., Konorski, P., Nardetto, N., Storm, J., 2011, *ApJ*, 742, 20L, "*The Araucaria Project: Accurate Determination of the Dynamical Mass of the Classical Cepheid in the Eclipsing System OGLE-LMC-CEP-1812*", citations=40, impact factor=6.02

My part in this work was collecting some spectroscopic and photometric data, data analysis, calculating eclipsing binary model and absolute dimensions of the system, preparing some figures. I estimate my participation as of 15 per cent.

34. **Graczyk, D.**, Soszyński, I., Poleski, R., Pietrzyński, G., Udalski, A., Szymański, M. K., Kubiak, M., Wyrzykowski, Ł., Ulaczyk, K., 2011, *AcA*, 61, 103, "*The Optical Gravitational Lensing Experiment. The OGLE-III Catalog of Variable Stars. XII. Eclipsing Binary Stars in the Large Magellanic Cloud*", citations=92, impact factor=1.68

I coordinated work on preparation the catalog. My part in this work was writing numerical code searching for eclipsing binaries, elaboration of eclipsing binary catalog (cross identification, tables), calculating some of its statistical properties, drawing final conclusions and writing the whole manuscript. I estimate my participation as of 60 per cent.

35. Luck, R. E., Andrievsky, S. M., Kovtyukh, V. V., Gieren, W., **Graczyk, D.**, 2011, AJ, 142, 51, "*The Distribution of the Elements in the Galactic Disk. II. Azimuthal and Radial Variation in Abundances from Cepheids*", citations=68, impact factor=4.04

I did all spectroscopic observations used in the paper. I estimate my participation as of 10 per cent.

36. Pietrzyński, G., Thompson, I. B., Gieren, W., **Graczyk, D.**, Bono, G., Udalski, A., Soszyński, I., Minniti, D., Pilecki, B., 2010, Nature, 468, 542, "*The dynamical mass of a classical Cepheid variable star in an eclipsing binary system*", citations=88, impact factor=36.10

My part in this work was collecting some spectroscopic and photometric data, data analysis, calculating eclipsing binary model and absolute dimensions of the system, preparing some figures and tables and, also, discussing final results. I estimate my participation as of 17 %.

37. Mennickent, R. E., Kołaczowski, Z., **Graczyk, D.**, Ojeda, J., 2010, MNRAS, 405, 1947, "*A study of the interacting binary V393 Scorpii*", citations=14, impact factor=4.89

My part in this work was collecting and reducing some spectroscopic data, calculating effective temperature of the systems' components and determination a distance to the system. I estimate my participation as of 10 per cent.

38. **Graczyk, D.**, Eyer, L., 2010, AcA, 60, 109, "*The Light Curve Statistical Moments Analysis: The Identification of Eclipsing Binaries*", citations=13, impact factor=3.49

My part in this work was developing details of eclipsing binary identification method, writing numerical code for eclipsing binary search, testing the method, working out an additional catalog of eclipsing binaries, writing most of the manuscript, preparing all figures and tables. I estimate my participation as of 80 per cent.

39. Pietrzyński, G., Thompson I., **Graczyk D.**, Gieren, W., Udalski, A., Szewczyk, O., Minniti, D., Kołaczowski, Z., Bresolin, F., Kudritzki, R.-P., 2009, ApJ, 697, 862, "*The Araucaria Project. Determination of the Large Magellanic Cloud Distance from Late-Type Eclipsing Binary Systems: I. OGLE-051019.64-685812.3*", citations=71, impact factor=7.36

My part in this work was selecting the target, calculating eclipsing binary model and absolute dimensions, preparing some figures and discussion of the uncertainty of the distance determination. I estimate my participation as of 20 per cent.

40. Gałan, C., Mikołajewski, M., Tomov, T., Kolev, D., **Graczyk, D.**, Majcher, A., Janowski, J. L., Cikała, M., 2008, OBSERVATORY, 128, 298, "*The orbital and physical parameters of the OW Geminorum eclipsing binary*", citations=4, impact factor=0.68

My part in this work was collecting some photometric data and discussing of final results. I estimate my participation as of 3 per cent.

41. Mikołajewski, M., Gałan, C., Gazeas, K., Niarchos, P., Zola, S., Kurpinska-Winiarska, M., Winiarski, M., Majewska, A., Siwak, M., Drahus, M., Waniak, W., Pigulski, A., Michalska, G., Kołaczowski, Z., Tomov, T., Gromadzki, M., **Graczyk, D.**, Osiwała, J., Majcher, A., Hajduk, M., Cikała, M., Zajczyk, A., Kolev, D., Dimitrov, D., Semkov, E., Bilkina, B., Dapergolas, A., Bellas-Velidis, L., Csak, B., Gere, B., Nemeth, P., Apostolovska, G., 2005, Ap&SS, 296, 445, "*Preliminary Photometric Results for the 2003 Eclipse of EE Cep*" citations=14, impact factor=0.50

My part in this work was collecting some photometric data. I estimate my participation as of 1 per cent.

42. **Graczyk, D.**, 2003, MNRAS, 342, 1334, "*Light-curve solutions for bright detached eclipsing binaries in the Small Magellanic Cloud: absolute dimensions and distance indicators*", citations=24, impact factor=4.99.

My contribution is 100 per cent.

Papers before PhD

43. **Graczyk, D.**, Mikołajewski, M., Tomov, T., Kolev, D., Iliev, I., 2003, A&A, 403, 1089, "*The 2003 eclipse of EE Cep is coming. A review of past eclipses*", citations=21, impact factor=3.84

My part in this work was gathering all photometric data from previous eclipses, data analysis, writing most of the manuscript, preparing all figures and drawing final conclusions. I estimate my participation as of 85 per cent.

44. **Graczyk, D.**, Mikołajewski, M., Leedjäv, L., Frackowiak, S. M., Osiewała, J. P., Puss, A., Tomov, T., 2002, A&A, 52, 293, "*HP Lyr - Possibly the Hottest RV Tau Type Object*", citations=5, impact factor=3.15

My part in this work was collecting part of photometric data, data analysis, writing most of the manuscript, preparing all figures and drawing final conclusions. I estimate my participation as of 60 per cent.

45. Leedjäv, L., **Graczyk, D.**, Mikołajewski, M., Puss, A., 1999, A&A, 349, 511, "*The 1997/1998 eclipse of VV Cephei was late*", citations=6, impact factor=2.25

My part in this work was calculating a new dynamical model of the system, data analysis, preparing some of figures and drawing a part of final conclusions. I estimate my participation as of 30 per cent.

46. Mikołajewski, M., **Graczyk, D.**, 1999, MNRAS, 303, 521, "*Is the eclipsing variable EE Cep a cousin of epsilon Aur?*", citations=23, impact factor=4.55

My part in this work was developing a new model of the system containing a dark, semi-opaque disc like structure, estimating absolute dimensions of the system, writing a part of the manuscript and final conclusions. I estimate my participation as of 40 per cent.

B. Patented inventions and designs.

NONE

C. Monographs, scientific papers not present in database mentioned in paragraph II A:

1. Gałan, C., Tomov, T., Kato, T., Pojmański, G., Szczygieł, D. M., Pilecki, B., Graczyk, D., Gromadzki, M., Mikołajewski, M., Gieren, W., Strobel, A., Bulgarian Astronomical Journal, 2012, 18b, 22, "*V383 Sco - a post-AGB star periodically eclipsed by pulsating M type supergiant*", citations=0, impact factor=0.

My part in this work was collecting some spectroscopic data. I estimate my participation as of 1 per cent.

2. Mikołajewski, M., Gałan, C., Graczyk, D., 2003, IBVS No. 5445, "*Multicolor Observations of the Primary and Secondary Eclipses of OW Geminorum*", citations=1, impact factor=0.
My part in this work was collecting some photometric data. I estimate my participation as of 5 per cent.

Papers before PhD

3. Mikołajewski, M., Tomov, T., Graczyk, D., Kolev, D., Galan, C., Galazutdinov, G., 2003, IBVS No. 5412, "*The start of the 2003 eclipse of EE Cephei*", citations=4, impact factor=0.

My part in this work was discussion of conclusions. I estimate my participation as of 3 per cent.

4. Graczyk, D., Mikołajewski, M., Janowski, J. L., 1999, IBVS No. 4679, "*The Sudden Period Change of VV Cephei*", citations=7, impact factor=0.

My part in this work was collecting some data, data analysis, writing a part of the manuscript, preparing all figures and drawing final conclusions. I estimate my participation as of 60 per cent.

- D. Collective elaborations, catalogs, documentation of scientific research, expertizes
NONE

- E. Total impact factor according to the Journal Citation Reports (JCR) list (consistent with year of a publication): 335.6

- F. The number of citations according to the Web of Science and NASA ADS databases (without self-citations): 1067 (922), 1385 (1198)

- G. Hirsch's index according the Web of Science and NASA ADS databases: 15, 20

- H. Management of international and national research projects and participation in them

1. Investigating long-period eclipsing binary stars, 1999-2000, Komitet Badań Naukowych, Poland, head
2. Spectroscopy and photometry of symbiotic stars: activity, eruptions, orbital effects, 2001-2003, Komitet Badań Naukowych, Poland, contractor
3. The Araucaria project – improvement of the calibration of the cosmic distance scale, 2006-2008, Polish Ministry of Science, contractor
4. Precise calibration of the cosmic distance scale, 2006-2010, FOCUS, Foundation of Polish Science, contractor
5. Precise calibration of the cosmic distance scale based on observations of eclipsing binaries in nearby galaxies, 2009-2011, Polish Ministry of Science and Higher Education, contractor
6. Very accurate calibration of the cosmic distance scale, 2010-2014, TEAM, Foundation of Polish Science, contractor
7. Improving the calibration of the cosmic distance scale, 2011-2014, IDEAS Plus, Polish Ministry of Science and Higher Education, contractor
8. Cepheids in binary systems as a unique laboratory for calibration of the cosmic distance scale and studying theories of stellar evolution and pulsations 2013-2018, MAESTRO, Polish National Science Center, contractor
9. A sub-percent distance scale from binaries and Cepheids (CepBin), 2016-2020, ERC grant under the European Union's Horizon 2020 research and innovation programme, No 695099, contractor

- I. International and national awards

NONE

J. Lectures given during international and national thematic conferences

1. Graczyk, D., Pilecki, B., Pietrzyński, G., Gieren, W., Konorski, P., Soszyński, I., Udalski, A., Gallenne, A., 2013, „*The Araucaria Project. Binary Classical Cepheids in the LMC*”, Setting a new standard in the analysis of binary stars, Ed.: Pavlovski, K. and Tkachenko, A., Leuven, Belgium
2. Graczyk, D., Pietrzyński, G., Pilecki, B., Thompson, I. B., Gieren, W., Konorski, P., Udalski, A., Soszyński, I., 2012, „*Distance to the Small Magellanic Cloud from eclipsing binaries*”, Advancing the Physics of Cosmic Distances, IAU Symposium 289, Ed.: Grijs R., Beijing, China
3. Graczyk, D., 2011, „*The early type eclipsing binaries as a distance indicator*”, The Fundamental Cosmic Distance Scale: State of the Art and the Gaia Perspective, Naples, Italy

III. Didactics and popularization works, and information about international collaboration.

A. Participation in European projects and other international and national projects.

1. ERC funding under the European Union's Horizon 2020 research and innovation program, grant No 695099, Poland
2. BASAL Centro de Astrofísica y Tecnologías Afines (PFB-06/2007), Chile
3. Project IC120009 of the Iniciativa Científica Milenio del Ministerio de Economía, Fomento y Turismo de Chile, Chile

B. Active participation in international and national conferences

1. D. Graczyk, 2017, talk: *Direct extragalactic distances accurate to one percent: case of the LMC*, XXXVIII Zjazd Polskiego Towarzystwa Astronomicznego, Zielona Góra
2. D. Graczyk, 2011, talk: *Project Araucaria - Wyznaczanie odległości do galaktyk z pomocą gwiazd zaćmieniowych*, XXXV Zjazd Polskiego Towarzystwa Astronomicznego, Gdańsk,

C. Participation in organizing committees of international and national conferences

NONE

D. Other awards and distinctions

NONE

E. Participation in consortia and research networks.

NONE

F. Management of projects in collaboration with scientists from Polish and foreign research centres other than mentioned in II H

NONE

G. Participation in editorial and scientific boards

NONE

H. Membership in international and national scientific societies.

1. Polish Astronomical Society, 2007- , a member

I. Didactic achievements and science popularization

1. Cooperation in public show of the Great Mars Opposition 2003 in Piwnice Observatory, 27th August
2. Series of articles titled "Gallery of NGC objects" in Postępy Astronomii, 2004-2008
3. I was a supervisor of astronomical circles in high schools in Toruń, 2004-2009, five of my students were finalists of Polish National Astronomical Olympiad, two of them were laureats
4. I cooperated in supervising of physical circle in IV high school in Toruń, 2006-2009, two of my pupils were laureats of Polish National Physical Olympiad and one was a finalist of Polish National Technical Olympiad
5. Popular lectures in Olsztyn Planetarium, 2017: "Co kryje się w Centrum Galaktyki?" i "Tajemniczy układ Syriusza"

J. Supervising of students

1. I was co-supervisor of Master Degree "Determination of distance to the LMC from late-type eclipsing binaries" by Miss Scarlet Elgueta in Universidad de Concepción, 2015-2016, Chile

K. Supervising of PhD students

1. I am auxiliary supervisor of doctoral thesis "Late type giant stars in eclipsing binaries" by mgr Ksenia Suchomska in Uniwersytet Warszawski, 2011-, Poland
2. I am scientific advisor of mgr Piotr Konorski during his PhD studies, Poland

L. Post-doc training

1. Princeton University, USA, one month, 2004
2. Universidad de Concepción, Chile, 2009-2016

M. Expert opinions and other professional evaluations

NONE

N. Membership of professional and contest teams

NONE

O. Work as a referee of international and national projects

NONE

P. Work as a referee of international and national journals

1. Astronomical Journal, 2013-present, 2 manuscripts
2. Astrophysical Journal, 2014-present, 3 manuscripts
3. Astrophysical Journal Letters, 2014, 1 manuscript
4. Monthly Notices of Royal Astronomical Society, 2013-present, 4 manuscripts
5. Science, 2014, 1 manuscript
6. Acta Astronomica, 2014-present, 3 manuscripts
7. Astrophysics and Space Science, 2017, 1 manuscript

Q. Other achievements

NONE

D. Graczyk