Emille E. O. Ishida

Publication List

Books

1. Hilbe, J. M., de Souza, R. S. and **Ishida, E. E. O.**, *Bayesian Models for Astrophysical Data: Using R, JAGS, Python and Stan*, Cambridge University Press, Jun, 2017 - PROSE Awards winner in the category "Astronomy and Cosmology"

Published Papers

1. Feigelson, E. D. *et a.l* (incl. **Ishida, E. E. O.**), *21st Century Statistical and Computational Challenges in Astrophysics*, accepted for publication in volume 8 of Annual Reviews of Statistics and Its Application, arXiv:astro-ph/2005.13025
2. Boucaud, A. *et al.* (incl. **Ishida, E. E. O.**), *Photometry of high-redshift blended galaxies using deep learning*, MNRAS, 491 (2), Jan/2020
3. Pruzhinskaya, M. V. *et al.* (incl. **Ishida, E. E. O.**), *Anomaly detection in the Open Supernova Catalog*, MNRAS, 489, Issue 3, p.3591-3608, Nov/2019
4. Malz, A. I. *et al.* (incl. **Ishida, E. E. O.**), *The Photometric LSST Astronomical Time-series Classification Challenge PLAsTiCC: Selection of a Performance Metric for Classification Probabilities Balancing Diverse Science Goals*, AJ, 158 (5), article id. 171, Nov/2019
5. Kessler, R. *et al.* (incl. **Ishida, E. E. O.**), *Models and Simulations for the Photometric LSST Astronomical Time Series Classification Challenge (PLAsTiCC)*, PASP, 131 (1003), pp. 094501, Sep/2019
6. Moews, B. *et al.* (incl. **Ishida, E. E. O.**), *Stress testing the dark energy equation of state imprint on supernova data*, PRD, 99 (12), id.123529, Jun/2019
7. Cantat-Gaudin, T. *et al.* (incl. **Ishida, E. E. O.**), *Gaia DR2 unravels incompleteness of nearby cluster population: New open clusters in the direction of Perseus*, A& A, 624 (A126), Apr/2019
8. **Ishida, E. E. O.** *et al.*, *Optimizing spectroscopic follow-up strategies for supernova photometric classification with active learning*, MNRAS, 483 (1), p.2-18, Feb/2019
9. González-Gaitán, S. *et al.* (incl. **Ishida, E. E. O.**), *Spatial field reconstruction with INLA: Application to IFU galaxy data*, MNRAS, 482 (3), p.3880-3891, Jan/2019
10. Beck, R., Lin, C-A, **Ishida, E. E. O.** *et al.* , *On the realistic validation of photometric redshifts, or why Teddy will never be Happy*, MNRAS, 468 (4), p. 4323-4339, Jul/2017
11. Sasdelli, M. *et al.* (incl. **Ishida, E. E. O.**), *A metric space for type Ia supernova spectra: a new method to assess explosion scenarios*, MNRAS, 466 (4), p.3784-3809, May/2017
12. Henne, V. *et al.* (incl. **Ishida, E. E. O.**), *The influence of host galaxy morphology on the properties of Type Ia supernovae from the JLA compilation*, New Astronomy, 51, p. 43-50,

Fev/2017

13. Sasdelli, M. **Ishida, E. E. O.** *et al.*, *Exploring the spectroscopic diversity of Type Ia supernovae with DRACULA: a machine learning approach*, MNRAS, 461, Issue 2, p.2044-2059, Sep/2016
14. Sasdelli, M., **Ishida, E. E. O.** *et al.*, *Breaking the color-reddening degeneracy in type Ia supernovae*, MNRAS, 461 (2), p.2044-2059, Jul/2016
15. Tartaglia, L. *et al.* (incl. **Ishida, E. E. O.**), *The supernova impostor PSN J09132750+7627410 and its progenitor*, ApJ 823 (2), article id. L23, Jun/2016
16. Bhardwaj, A. *et al.* (incl. **Ishida, E. E. O.**), *Large Magellanic Cloud Near-Infrared Synoptic Survey - III. A statistical study of non-linearity in the Leavitt Laws*, In: MNRAS, 457 (2), p.1644-1665, Apr/2016
17. Pastorello, A. *et al.* (incl. **Ishida, E. E. O.**), *Massive stars exploding in a He-rich circumstellar medium - VIII. PSN J07285387+3349106, a highly reddened supernova Ibn*, In: MNRAS, 454 (4), p.4293-4303, Dez/2015
18. Pastorello, A. *et al.* (incl. **Ishida, E. E. O.**), *Massive stars exploding in a He-rich circumstellar medium - VII. The metamorphosis of ASASSN-15ed from a narrow line Type Ibn to a normal Type Ib Supernova*, In: MNRAS, 453 (4), p.3649-3661, Nov/2015
19. **Ishida, E. E. O.** *et al.*, *cosmoabc: Likelihood-free inference via Population Monte Carlo Approximate Bayesian Computation*, In: Astronomy & Computing, 13 (1-11), Nov/2015
20. de Souza, R. S. *et al.* (incl. **Ishida, E. E. O.**), *The Overlooked Potential of Generalized Linear Models in Astronomy-III: Bayesian Negative Binomial Regression and Globular Cluster Populations*, MNRAS, 453 (2), Oct/2015
21. Elliot, J., *et al.* (incl. **Ishida, E. E. O.**), *The overlooked potential of Generalized Linear Models in astronomy-II: Gamma regression and photometric redshifts*, Astronomy & Computing, 10 (961-72), April/2015
22. Sasdelli, M. *et al.* (incl. **Ishida, E. E. O.**), *A metric space for Type Ia supernova spectra*, MNRAS, 447 (2), Feb/2015
23. Krone-Martins, A., **Ishida, E. E. O.**, de Souza, R. S., *The first analytical expression to estimate photometric redshifts suggested by a machine*, MNRASL, 443, L34-L38, Sep/2014
24. de Souza, R. S., **Ishida, E. E. O.**, Johnson, J. L., Whalen, D. J. and Messinger, A., *Detectability of the first cosmic explosions*, MNRAS, 436 (1555), Dez/2013
25. Benitez-Herrera, S., **Ishida, E. E. O.** *et al.*, *Cosmological Parameter Estimation from SN Ia data: a Model-Independent Approach*, MNRAS, 436 (854), Nov/2013
26. **Ishida, E. E. O.** and de Souza, R. S., *Kernel PCA for type Ia supernovae photometric classification*, MNRAS, 430 (509), Mar/2013
27. de Souza, R. S. *et al.* (incl. **Ishida, E. E. O.**), *Looking for the first stars with Gaia mission*, Astronomy & Astrophysics, 545 (A102), Sep/2012
28. **Ishida, E. E. O.**, de Souza, R. S. and Ferrara, A., *Probing cosmic star formation up to z = 9.4 with GRBs*, MNRAS, 418 (500), Nov/2011
29. de Souza, R. S. *et al.* (incl. **Ishida, E. E. O.**), *The Effect of a Single Supernova Explosion on the Cuspy Density Profile of a Small-Mass Dark Matter Halo*, MNRAS, 415 (2969-2973), Aug/2011
30. **Ishida, E. E. O.** and de Souza, R. S., *Hubble parameter reconstruction from PCA: mini-*

mizing the bias, Astronomy & Astrophysics, 527 (A49), Mar/2011

31. de Souza, R. S. and **Ishida, E. E. O.**, *An analytical approach to the dwarf galaxies cusp problem*, Astronomy & Astrophysics, 524 (A74), Dec/2010
32. **Ishida, E. E. O.** *et al.*, *When did cosmic acceleration start? How fast was the transition?*, Astroparticle Physics, v. 28 (6), 547-552, Jan/2008
33. **Ishida, E. E. O.**, *Statefinder Revisited*, Brazilian Journal of Physics, v.35 (4B), Dec/2005

Submitted Papers

1. **Ishida, E. E. O.** *et al.*, *Active Anomaly Detection for time-domain discoveries*, submitted to Astronomy and Astrophysics, arXiv:astro-ph/1909.13260
2. Moews, B. *et al.* (incl. **Ishida, E. E. O.**), *Ridges in the Dark Energy Survey for cosmic trough identification*, submitted to MNRAS, arXiv:astro-ph/2005.08583

Refereed Proceedings

1. Vilalta, R., **Ishida, E. E. O.** *et al.*, *Photometric Redshift Estimation: An Active Learning Approach*, IEEE Symposium on Computational Intelligence and Data Mining (CIDM-17), Hawaii, USA, 2017, pp. 1-8. doi: 10.1109/SSCI.2017.8285192
2. Gupta, K. D. *et al.* (incl. **Ishida, E. E. O.**), *Automated Supernova Ia Classification Using Adaptive Learning Techniques*, 2016 IEEE Symposium Series on Computational Intelligence (SSCI), Athens, Greece, 2016, pp. 1-8. doi: 10.1109/SSCI.2016.7849951
3. **Ishida, E. E. O.** *et al.*, *Exploring the spectroscopic diversity of type Ia supernovae with Deep Learning and Unsupervised Clustering*, IAU Symposium 325 - Astroinformatics, Sorento - Italy, Nov/2016
4. **Ishida, E. E. O.**, Abdalla, F. B. and de Souza, R. S., *Improved KPCA for Supernova Photometric Classification*, Proceedings of the International Astronomical Union, Volume 10, Symposium S306, pp 326-329, published Jul/2015
5. **Ishida, E. E. O.**, *Kernel PCA for Supernovae Photometric Classification*, Highlights of Astronomy, 16 (683-684), Mar/2015
6. Elliot, J., de Souza, R. S., Krone-Martins, A., Cameron, E., **Ishida, E. E. O.**, Hilbe, J., *Using gamma regression for photometric redshifts of survey galaxies*, "The Universe of Digital Sky Surveys" conference held at the INAF - Observatory of Capodimonte, Naples, on 25th-28th Nov/2014

Magazines

1. **Ishida, E. E. O.**, *Machine learning and the future of supernova cosmology*, Nature Astronomy, Volume 3, p. 680-682, Aug/2019
2. de Souza, R. S. and **Ishida, E. E. O.**, *Making sense of massive unknowns*, In: Significance Magazine, vol 11 issue 5, Dez/2014

Softwares

1. **Ishida, E. E. O.**, *ActSNClass: Active learning for supernova photometric classification*, ascl:1908.003 - documentation available at Readthedocs, Bibcode: 2019ascl.soft08003I
2. Aguena, M. et al. (incl. **Ishida, E. E. O.**), *DRACULA*: Dimensionality Reduction And Clustering for Unsupervised Learning in Astronomy, ascl:1512.009, Bibcode: 2015ascl.soft12009A
3. **Ishida, E. O. O.**, *cosmoabc*, ascl:1505.013 - documentation available at Readthedocs, Bibcode: 2015ascl.soft05013I
4. de Souza, R. S., Elliott, J., Krone-Martins, A., **Ishida, E. E. O.**; Hilbe, J., Cameron, E., *CosmoPhotoz*, ascl:1408.018, Bibcode: 2014ascl.soft08018D

Astronomer's Telegram

1. Elias-Rosa, N. *et al.* (incl. **Ishida, E. E. O.**), *Spectroscopic classification of PSN J13215756 + 3843229 in NGC 5112 at the Nordic Optical Telescope*, In: The Astronomer's Telegram, #7223, Mar/2015
2. Ochner, P. *et al.* (incl. **Ishida, E. E. O.**), *Asiago classification of PSN J08593491+4555343*, In: The Astronomer's Telegram, #7222, Mar/2015
3. Noebauer, U., *et al.* (incl. **Ishida, E. E. O.**), *Asiago classification of PS15mb and ASASSN-15ed*, In: The Astronomer's Telegram, #7219, Mar/2015

Data Catalogs

1. Cantat-Gaudin, T. *et al.* (incl. **Ishida, E. E. O.**), *VizieR Online Data Catalog: New open clusters in Perseus direction*, In: VizieR On-line Data Catalog: J/A+A/624/A126

Outreach

1. **Ishida, E. E. O.**, *Plutão ainda tem muito a nos revelar*, Cientistas descobriram que ..., November 3^{rd}, 2015 - in Portuguese
2. **Ishida, E. E. O.**, *Pesquisadores brasileiros investigam a estrutura da Via-Láctea*, Cientistas descobriram que ..., July 7^{th}, 2015 - in Portuguese
3. **Ishida, E. E. O.**, *Planetas semelhantes a Terra existiram por quase toda história do Universo*, Cientistas descobriram que..., March 10^{th}, 2015 - in Portuguese
4. **Ishida, E. E. O.**, *Laniakea: um super-aglomerado para chamar de lar*, Cientistas descobriram que ..., October 21^{st}, 2014 - in Portuguese

   Ishida, E. E. O., *The Lutheran Church and the birth of Modern Astronomy*, The British Lutheran, ELCE, October 2009, London, UK

Others

1. *LACAN - Survey of scientific working environment in the Brazilian astronomical Community*, de Souza, R. S., **Ishida, E. E. O.**, Trevisan, M., Rua, J., Pereira, M.E.S., Jul/2015 - statistical results and proposed preventive actions can be found in http://lacanastro.wix.com/lacan2015-english
2. Portuguese translation of Richard Murphy's poem *Sailing to an Island*,

de Souza, R. S. and **Ishida, E. E. O.**, *Navengando rumo à Ilha*, Art i Literatura, v. 47, serie ALPHA, Valencia, Spain, September 2010 (ISNN 1989-3590)