

A. J. Gallagher publications (2017–2019)

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Refereed Journal Papers

1. **A. J. Gallagher**, M. Bergemann, R. Collet, B. Plez, J. Leenaarts, M. Carlsson, S. A. Yakovleva, and A. K. Belyaev (2019).
[Observational constraints on the origin of the elements II. 3D non-LTE formation of Ba II lines in the solar atmosphere.](#)
 - Forthcoming. *Astronomy and Astrophysics*
 - [arXiv:\[1910.03898\]](#)
2. Maria Bergemann, **Andrew J. Gallagher**, Philipp Eitner, Manuel Bautista, Remo Collet, Svetlana A. Yakovleva, Anja Mayriedl, Bertrand Plez, Mats Carlsson, Jorrit Leenaarts, Andrey K. Belyaev & Camilla Hansen (2019).
[Observational constraints on the origin of the elements I. 3D NLTE formation of Mn lines in late-type stars.](#)
 - Published. *Astronomy and Astrophysics* Vol. 631, A80
3. M. Spite, P. Bonifacio, F. Spite, E. Caffau, L. Sbordone, & **A. J. Gallagher** (2019).
[Be and O in the ultra metal-poor dwarf 2MASS J18082002-5104378: and the Be-O correlation.](#)
 - Published. *Astronomy and Astrophysics* Vol. 624, A44
4. P. François, E. Caffau, P. Bonifacio, M. Spite, F. Spite, R. Cayrel, N. Christlieb, **A. J. Gallagher**, R. Klessen, A. Koch, H.-G. Ludwig, L. Monaco, B. Plez, M. Steffen, & S. Zaggia (2018).
[TOPoS: V. Abundance ratios in a sample of very metal-poor turn-off stars](#)
 - Published. *Astronomy and Astrophysics* Vol. 620, A187
5. P. François, E. Caffau, S. Wanajo, D. Aguado, M. Spite, M. Aoki, W. Aoki, P. Bonifacio, **A. J. Gallagher**, S. Salvadori, & F. Spite (2018).
[Chemical analysis of very metal poor turn-off stars from SDSS – DR21.](#)
 - Published. *Astronomy and Astrophysics* Vol. 619, A10
6. E. Caffau, **A. J. Gallagher**, P. Bonifacio, M. Spite, S. Duffau, F. Spite, L. Monaco, & L. Sbordone (2018).
[A sample of carbon enhanced metal-poor stars observed with FORS and GMOS.](#)
 - Published. *Astronomy and Astrophysics* Vol. 614, A68
7. P. Bonifacio, E. Caffau, M. Spite, F. Spite, L. Sbordone, L. Monaco, P. François, B. Plez, P. Molaro, **A. J. Gallagher**, R. Cayrel, N. Christlieb, R. S. Klessen, A. Koch, H.-G. Ludwig, M. Steffen, S. Zaggia, & C. Abate (2018).
[TOPoS: IV. Chemical abundances from high-resolution observations of seven EMP stars.](#)
 - Published. *Astronomy and Astrophysics* Vol. 612, A65
8. P. Bonifacio, E. Caffau, H.-G. Ludwig, M. Steffen, F. Castelli, **A. J. Gallagher**, A. Kučinskas, D. Prakashavičius, R. Cayrel, B. Freytag, B. Plez, & D. Homeier (2018).
[Using the CIFIST grid of CO5BOLD 3D model atmospheres to study the effects of stellar granulation on photometric colours. I. Grids of 3D corrections in the UBVRI, 2MASS, Hipparcos, Gaia, and SDSS systems.](#)
 - Published. *Astronomy and Astrophysics* Vol. 611, A68

9. Anders O. Thygesen, Evan N. Kirby, **Andrew J. Gallagher**, Hans-Günter Ludwig, Elisabetta Caffau, Piercarlo Bonifacio, & Luca Sbordone (2017).

[An investigation of the formation and line properties of MgH in 3D hydrodynamical model stellar atmospheres.](#)

- Published. *The Astrophysical Journal* Vol. 843, 144

10. S. Duffau, E. Caffau, L. Sbordone, P. Bonifacio, S. Andrievsky, S. Korotin, C. Babusiaux, S. Salvadori, L. Monaco, P. François, Á. Skúladóttir, A. Bragaglia, P. Donati, L. Spina, **A. J. Gallagher**, H.-G. Ludwig, N. Christlieb, C. J. Hansen, A. Mott, M. Steffen, S. Zaggia, S. Blanco-Cuaresma, F. Calura, E. Friel, F. M. Jiménez-Esteban, A. Koch, L. Magrini, E. Pancino, B. Tang, G. Tautvaišiene, A. Vallenari, K. Hawkins, G. Gilmore, S. Randich, S. Feltzing, T. Bensby, E. Flaccomio, R. Smiljanic, A. Bayo, G. Carraro, A. R. Casey, M. T. Costado, F. Damiani, E. Franciosini, A. Hourihane, P. Jofré, C. Lardo, J. Lewis, L. Morbidelli, S. G. Sousa, & C. C. Worley (2017).

[The Gaia-ESO Survey: Galactic evolution of sulphur and zinc.](#)

- Published. *Astronomy & Astrophysics* Vol. 604, A128

11. M. Spite, R. Peterson, **A. J. Gallagher**, B. Barbuy, & F. Spite (2017).
[Abundances of the light elements from UV \(HST\) and red \(ESO\) spectra in the very old star HD 84937.](#)

- Published. *Astronomy & Astrophysics* Vol. 600, A26

12. **A. J. Gallagher**, E. Caffau, P. Bonifacio, H.-G. Ludwig, M. Steffen, D. Homeier, & B. Plez (2017).
[An in-depth spectroscopic examination of molecular bands from 3D hydrodynamical model atmospheres: II. Carbon-enhanced metal-poor 3D model atmospheres.](#)

- Published. *Astronomy & Astrophysics* Vol. 598, L10

Conference Publications

1. M. Steffen, **A. J. Gallagher**, E. Caffau, P. Bonifacio, & H.-G. Ludwig (2018).
[Carbon enhanced metal-poor 3D model atmospheres.](#)
 - Submitted. *Proceedings IAU Symposium* Vol. 334, 364.
2. **A. J. Gallagher**, M. Steffen, E. Caffau, P. Bonifacio, H.-G. Ludwig & B. Freytag (2017).
[Enhanced methods for computing spectra from CO5BOLD models using Linfor3D. Molecular bands in metal-poor stars.](#)
 - Published *Memorie della Societa Astronomica Italiana*, Vol. 88, 82.
3. P. Bonifacio, E. Caffau, H.-G. Ludwig, F. Castelli, **A. J. Gallagher**, D. Prakashavičius, A. Kučinskas, R. Cayrel, B. Freytag, B. Plez & D. Homeier (2017).
[Using CO5BOLD models to predict the effects of granulation on colours](#)
 - Published *Memorie della Societa Astronomica Italiana*, Vol. 88, 90.

Other

1. Matthias Steffen, Hans-Günter Ludwig, Sven Wedemeyer & **Andy J. Gallagher**, (2019).
[Linfor3D User Manual](#)
2. Jorrit Leenaarts, **Andy J. Gallagher**, Anish Amarsi, Maria Bergemann, Bertrand Plez, (2018).
Multi3D user Manual