Michael L. Palumbo III

First-author Publications

2026 **Palumbo, M. L., III**. The Limits of Line Broadening: Modeling Stellar Spectra and Formation Temperatures at High Resolution. *ApJ*, *1006*(1), 55.

2024 **Palumbo, M. L., III**, Saar, S. H., & Haywood, R. D. Characterizing Solar Center-to-limb Radial-velocity Variability with SDO. *ApJ*, *973*(1), 11.

2024 **Palumbo, M. L., III**, Ford, E. B., Gonzalez, E. B., Wright, J. T., Al Moulla, K., & Schlichenmaier, R. GRASS. II. Simulations of Potential Granulation Noise Mitigation Methods. *AJ*, *168*(1), 46.

2023† **Palumbo, M. L., III**, Wright, J. T., & Huston, M. J. Fortuitous Observations of Potential Stellar Relay Probe Positions with GBT. *RNAAS*, *7*(10), 209.

2022 **Palumbo, M. L., III**, Ford, E. B., Wright, J. T., Mahadevan, S., Wise, A. W., & Löhner-Böttcher, J. GRASS: Distinguishing Planet-induced Doppler Signatures from Granulation with a Synthetic Spectra Generator. *AJ*, *163*(1), 11.

2020 **Palumbo, M. L., III**, Kannappan, S. J., Frazer, E. M., Eckert, K. D., Norman, D. J., Fraga, L., ... Carr, D. S. Linking Compact Dwarf Starburst Galaxies in the RESOLVE Survey to Downsized Blue Nuggets. *MNRAS*, *494*(4), 4730-4750.

Major Contribution

2026* Gonzalez, E., **Palumbo, M. L., III**, Mahadevan, S., Ford, E. B., Logsdon, S. E., Bender, C. F., ... Terrien, R. C. Shadowing the Sun I: Testing Synthetic Granulation Spectra with NEID Solar Eclipse Observations. *arXiv*, arXiv:2611.03898. (*accepted to ApJ*)

N[th]-author Publications

2026 Gupta, A. F., Logsdon, S. E., Luhn, J. K., Fitzmaurice, E., Mahadevan, S., Robertson, P., ... **Palumbo, M. L., III**, ... Wright, J. T. The NEID Earth Twin Survey. VI. Discovery of a Low-Mass Planet Orbiting HD 126053 and RV Signals Near the Rotation Periods of HD 168009 and HD 10780. *arXiv*, arXiv:2609.32097. (*submitted to AAS Journals*)

2026 Lubin, J., Petigura, E., Masuda, K., Halverson, S., Angelo, I., Huber, D., **Palumbo, M. L., III**, ... Wang, X.-Y. Predicting Macroturbulence in F/G/K Dwarfs to 100 m/s Precision. *arXiv*, arXiv:2609.17693. (*submitted to AJ*)

2026 Pandey, K., Ford, E. A., Salzer, J. M., Cisewski-Kehe, J., Zhao, L. L., Gupta, A. F., **Palumbo, M. L., III**, ... Paredes, L. A. Improving the Precision of Line-by-Line Radial Velocities: A Data-Driven Iterative Algorithm for Spectral Line Selection. *arXiv*, arXiv:2606.29552.

2026 Frame, G., Cegla, H. M., Lagae, C., Witzke, V., Watson, C., Shelyag, S., ... **Palumbo, M. L., III**, & Shapiro, A. Synthetic Disc-integrated Absorption Lines Isolating Stellar Granulation for High-precision RV Studies. *MNRAS*, *547*(3), stag418.

2026† Wright, J. T., Gonzalez, E., Premnath, P., Robertson, P., Mahadevan, S., Gupta, A. F., ... **Palumbo, M. L., III**, ... Terrien, R. C. A Simple One-free-parameter Model of the Solar Chromosphere Explains Solar Chromospheric Line Variations Measured by NEID at WIYN during the 2023 October Solar Eclipse. *RNAAS*, *10*(1), 14.

2025 Frame, G., Cegla, H. M., Witzke, V., Lagae, C., **Palumbo, M. L., III**, Shelyag, S., ... Shapiro, A. Towards Understanding Stellar Variability at the Sub m/s Level: Isolating Granulation Signals in Synthetic Spectral Lines. *MNRAS*, *539*(3), 2248-2261.

† Non-refereed. * Student-led.

Updated 2026-11-04

2024 Ford, E. B., Bender, C. F., Blake, C. H., Gupta, A. F., Kanodia, S., Lin, A. S. J., ... **Palumbo, M. L., III**, ... Stefansson, G. Earths within Reach: Evaluation of Strategies for Mitigating Solar Variability using 3.5 years of NEID Sun-as-a-Star Observations. *arXiv*, arXiv:2408.13318. (*in revision for AAS Journals*)

2024 Carr, D. S., Kannappan, S. J., Norris, M. A., Sinha, M., **Palumbo, M. L., III**, Eckert, K. D., ... Stark, D. V. Identification and Quenching of Nugget Galaxies in the RESOLVE Survey at z = 0. *ApJ*, *968*(1), 18.

2022 Tusay, N., Huston, M. J., Dedrick, C. M., Kerby, S., **Palumbo, M. L., III**, Croft, S., ... Breakthrough Listen. A Search for Radio Technosignatures at the Solar Gravitational Lens Targeting Alpha Centauri. *AJ*, *164*(3), 116.

2022 Haywood, R. D., Milbourne, T. W., Saar, S. H., Mortier, A., Phillips, D., Charbonneau, D., ... **Palumbo, M. L., III**. Unsigned Magnetic Flux as a Proxy for Radial-velocity Variations in Sun-like Stars. *ApJ*, *935*(1), 6.

2022 Zhao, L. L., Fischer, D. A., Ford, E. B., Wise, A., Cretignier, M., Aigrain, S., ... **Palumbo, M. L., III**, ... Szymkowiak, A. E. The EXPRES Stellar Signals Project II. State of the Field in Disentangling Photospheric Velocities. *AJ*, *163*(4), 171.

2019 Milbourne, T. W., Haywood, R. D., Phillips, D. F., Saar, S. H., Cegla, H. M., Cameron, A. C., ... **Palumbo, M. L., III**, ... Walsworth, R. L. HARPS-N Solar RVs Are Dominated by Large, Bright Magnetic Regions. *ApJ*, *874*(1), 107.

2018 Cegla, H. M., Watson, C. A., Shelyag, S., Chaplin, W. J., Davies, G. R., Mathioudakis, M., **Palumbo, M. L., III**, ... Haywood, R. D. Stellar Surface Magneto-convection as a Source of Astrophysical Noise. II. Center-to-limb Parameterization of Absorption Line Profiles and Comparison to Observations. *ApJ*, *866*(1), 55.

Authored Software

2026 **Palumbo, M. L., III**. *FormationTemps.jl.* Zenodo.

2024 **Palumbo, M. L., III**, Saar, S. H., & Haywood, R. D. *sdo-clv-pipeline.* Zenodo.

2023 **Palumbo, M. L., III**, Wright, J. T., & Huston, M. J. *palumbom/seti-fortuitous-obs: v0.1.0.* Zenodo.

2021 **Palumbo, M. L., III**, Ford, E. B., Wright, J. T., Mahadevan, S., Wise, A. W., & Löhner-Böttcher, J. *GRASS: GRanulation and Spectrum Simulator.* Astrophysics Source Code Library, record ascl:2110.011.

2021 Ford, E., Wise, A., & **Palumbo, M. L., III**. *RvSpectML/EchelleCCFs.jl: v0.1.11.* Zenodo.

Theses

2024† **Palumbo, M. L., III**. *Characterizing Variability in Stellar Convective Velocity Fields Toward Enabling 10 cm/s Radial-Velocity Precision* (Doctoral Dissertation, Pennsylvania State University).

2018† **Palumbo, M. L., III**. *Comparing Low-Redshift Compact Dwarf Starbursts in the RESOLVE Survey with High-Redshift Blue Nuggets* (Undergraduate Honors Thesis, University of North Carolina at Chapel Hill).

† Non-refereed.