

PROMOTION RECOMMENDATION  
The University of Michigan  
College of Engineering  
Department of Climate and Space Sciences and Engineering

Enrico Landi, professor of climate and space sciences and engineering, without tenure, in the Department of Climate and Space Sciences and Engineering, College of Engineering, is recommended for the granting of tenure to be held with his title of professor of climate and space sciences and engineering, Department of Climate and Space Sciences and Engineering, College of Engineering.

Academic Degrees:

Ph.D. 1999 University of Florence, Astronomy, Florence, Italy  
M.S. 1995 University of Florence, Laurea Degree, Florence, Italy

Professional Record:

2016 – present Professor (without tenure), Climate and Space Sciences and Engineering, University of Michigan  
2014 – 2016 Research Scientist, Climate and Space Sciences and Engineering, University of Michigan  
2010 – 2013 Associate Research Scientist, Atmospheric, Oceanic and Space Sciences University of Michigan  
2009 – 2010 Astrophysicist, Space Division, Naval Research Laboratory, Washington, DC  
2000 – 2009 Research Physicist, ARTEP, Inc., Naval Research Laboratory, Washington, DC  
1999 – 2000 Post-Doctoral Fellow, Max-Planck-Institut für Aeronomie, Katlenburg-Lindau, Germany

Summary of Evaluation:

Teaching: Professor Landi is an outstanding educator who is committed to inclusive teaching, active learning, and professional growth. During his career as an untenured professor, he has taught six different courses at varying levels (holding the record for the number of new courses within five years in the department) and developed two unique courses that focus not only on teaching the science fundamentals, but the fundamental skills of a successful researcher. His course evaluations are excellent with most above a 4.6 median. He has advised seven Ph.D. students as either chair or co-chair. This includes four students who have graduated, with another expected to graduate this year. He has also advised two master's students and 10 undergraduate students, and he has been active in mentoring post-doctoral scholars. Letters received from his students refer to kindness, encouragement, and excellence in teaching and mentoring.

Research: Professor Landi is a world leader in the modeling of the atomic spectral properties of optically thin astrophysical plasmas (1-2000 Angstroms). He is one of the creators of the CHIANTI atomic database and plasma diagnostics and spectral analysis software, which is widely used in all of astrophysics. Professor Landi is also part of a major proposal for a large

coronagraph component for the COronal Solar Magnetism Observatory (COSMO) at Mauna Loa Solar Observatory that will expand the quality of measurements of the coronal magnetic field. He will be responsible for the COSMO Data Center (CDC), to be hosted at the University of Michigan. Professor Landi is a sought-after collaborator, and he holds a substantial amount of funding with 11 current grants totaling approximately \$1.7M. His curriculum vitae lists over 200 publications.

#### Recent and Significant Publications:

- Landi, E., Hutton, R., Brage, T., Li, W., “Hinode/EIS measurements of active region magnetic fields”. *ApJ*, 2020; 904(2): id.87, 22 pp.
- Landi, E., S. R. Habbal, and S. Tomczyk (2016), “Coronal plasma diagnostics from ground-based observations,” *J. Geophys. Res. Space Physics*, 121, 8237–8249.
- Rivera, Y. J., Landi, E., Lepri, S. T., Gilbert, J. A., “Empirical modeling of CME evolution constrained to ACE/SWICS charge state distributions,” *ApJ*, 2019; 874(2).
- Stakhiv, M., Landi, E., Lepri, S. T., Tracy, P., Zurbuchen, T. H., “On solar wind origin and acceleration: Measurements from ACE,” *ApJ*, 2016; 829(2).
- Szente, J., Landi, E., Manchester, W. B. IV, Toth, G., van der Holst, B., Gombosi, T. I., “SPECTRUM – Synthetic Spectral Calculations for Global Space Plasma Modeling,” *ApJS*. 2019; 242(1).

Service: Professor Landi has served as a member of the CLaSP faculty search committee, the co-chair of the DEI committee, a three-year member of the graduate admission committee and he is on the departmental executive committee. As the chair of the CLaSP awards committee, he transformed a scattered and uneven process to a highly organized and successful one, which has led to many internal and external awards to the members of our community. More broadly, Professor Landi has participated in reviews for funding agencies, and has been a reviewer for a very broad range of journals. Further, at the national level, Professor Landi is involved in developing the strategic vision for a number of new facilities, including the Daniel K. Inouye Solar Telescope, where he is a member of the science working group and NASA’s Living with a Star program.

#### External Reviewers:

Reviewer A: “Enrico Landi works broadly in the field of solar and interplanetary physics and has, exceptionally, bridged the gap between ‘solar’ physics and ‘heliospheric’ physics in a heroic way. ... He will clearly play a leadership role in the coming decade of coronal physics.”

Reviewer B: “Looking first at his work with CHIANTI: this database is used and relied upon by hundreds of researchers across the world. Dr. Landi was one of the four originators of the database ... It is a cornerstone of solar physics.”

Reviewer C: “...Landi’s stellar commitment to increasing diversity in solar and space physics. In particular, he has focused on accepting and mentoring a diverse group of students, from summer students to PhD candidates, has taken on the responsibility for DEI in the SOLSTICE DRIVE Center effort, and co-chaired CLaSP’s DEI committee. ... CLaSP is fortunate to have such a world-class scientist who also devotes considerable time and effort to the betterment of science and society.”

Reviewer D: "...Dr. Landi's contributions are held in the highest regard. The CHIANTI software is the gold standard in the analysis of EUV spectra. It has led directly or indirectly to much of the most exciting developments in Solar Physics."

Reviewer E: "I have interacted with Enrico in a broad range of venues from small private parties, through seminars, committee meetings, and all the way to massive community meetings and workshops that he has either helped organize or participated in. The Enrico I know is invariant in these environments - a top notch person as much as a top-notch scientist, educator, positive role-model, and leader."

Summary of Recommendation: Professor Landi is a world-class researcher whose research is well-known and whose expertise is sought after. He is a compassionate and careful teacher, who gains the affection and respect of his students. His service has improved the climate, processes, and functioning of the department, the university, and the broader scientific community. It is with the support of the College of Engineering Executive Committee that I recommend Enrico Landi for the granting of tenure to be held with his title of professor of climate and space sciences and engineering, Department of Climate and Space Sciences and Engineering.



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Alec D. Gallimore, Ph.D.  
Robert J. Vlastic Dean of Engineering  
College of Engineering

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