

# Cesare Cecchi-Pestellini

## List of Publications by Year in descending order

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101  
papers

1,628  
citations

304701

22  
h-index

377849

34  
g-index

101  
all docs

101  
docs citations

101  
times ranked

1418  
citing authors

| #  | ARTICLE   | IF   | CITATIONS |
|----|---|------|-----------|
| 1  | Cosmic ray induced photons in dense interstellar clouds. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992, 258, 125-133.   | 4.4  | 85        |
| 2  | The far-ultraviolet signature of the "missing" baryons in the Local Group of galaxies. <i>Nature</i> , 2003, 421, 719-721.  | 27.8 | 82        |
| 3  | Mass loss from "Hot Jupiters" Implications for CoRoT discoveries, Part II: Long time thermal atmospheric evaporation modeling. <i>Planetary and Space Science</i> , 2008, 56, 1260-1272.  | 1.7  | 80        |
| 4  | The role of the charge state of PAHs in ultraviolet extinction. <i>Astronomy and Astrophysics</i> , 2008, 486, L25-L29.   | 5.1  | 54        |
| 5  | SOFT X-RAY IRRADIATION OF METHANOL ICE: FORMATION OF PRODUCTS AS A FUNCTION OF PHOTON ENERGY. <i>Astrophysical Journal</i> , 2013, 778, 162.  | 4.5  | 51        |
| 6  | Rotational and Vibrational Excitation of CO Molecules by Collisions with $^4\text{He}$ Atoms. <i>Astrophysical Journal</i> , 2002, 571, 1015-1020.  | 4.5  | 47        |
| 7  | The relative role of EUV radiation and X-rays in the heating of hydrogen-rich exoplanet atmospheres. <i>Astronomy and Astrophysics</i> , 2009, 496, 863-868.                              | 5.1  | 46        |
| 8  | Dehydrogenated polycyclic aromatic hydrocarbons and UV bump. <i>Astronomy and Astrophysics</i> , 2008, 489, 1183-1187.  | 5.1  | 44        |
| 9  | Beyond Mie Theory: The Transition Matrix Approach in Interstellar Dust Modeling. <i>Astrophysical Journal</i> , 2001, 559, 993-1004.  | 4.5  | 37        |
| 10 | Episodic explosions in interstellar ices. <i>Monthly Notices of the Royal Astronomical Society</i> , 2013, 430, 264-273.  | 4.4  | 35        |
| 11 | Stellar X-ray heating of planet atmospheres. <i>Astronomy and Astrophysics</i> , 2006, 458, L13-L16.  | 5.1  | 35        |
| 12 | Emission of $\text{HeH}^+$ in nebulae. <i>Astrophysical Journal</i> , 1993, 413, 611.   | 4.5  | 35        |
| 13 | MARC: A code for the retrieval of atmospheric parameters from millimeter-wave limb measurements. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2007, 105, 476-491. | 2.3  | 33        |
| 14 | SOFT X-RAY IRRADIATION OF $\text{H}_2\text{S}$ ICE AND THE PRESENCE OF $\text{S}_2$ IN COMETS. <i>Astrophysical Journal Letters</i> , 2012, 751, L40.                                     | 8.3  | 33        |
| 15 | Optical Properties of Composite Interstellar Grains: A Morphological Analysis. <i>Astrophysical Journal</i> , 2004, 615, 286-299.   | 4.5  | 32        |
| 16 | $\text{H}_3^+$ in diffuse interstellar gas. <i>Monthly Notices of the Royal Astronomical Society</i> , 2000, 313, L6-L8.  | 4.4  | 30        |
| 17 | Radiation pressure cross-sections of fluffy interstellar grains. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 341, 1239-1245.   | 4.4  | 28        |
| 18 | MODELING GALACTIC EXTINCTION WITH DUST AND REAL POLYCYCLIC AROMATIC HYDROCARBONS. <i>Astrophysical Journal, Supplement Series</i> , 2013, 207, 7.   | 7.7  | 28        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | Stratified dust grains in the interstellar medium - I. An accurate computational method for calculating their optical properties. <i>Monthly Notices of the Royal Astronomical Society</i> , 0, 384, 591-598. | 4.4 | 27        |
| 20 | Stratified dust grains in the interstellar medium - II. Time-dependent interstellar extinction. <i>Monthly Notices of the Royal Astronomical Society</i> , 0, 408, 535-541.                                   | 4.4 | 26        |
| 21 | X-RAY IRRADIATION OF H <sub>2</sub> O + CO ICE MIXTURES WITH SYNCHROTRON LIGHT. <i>Astrophysical Journal</i> , 2016, 820, 25.   | 4.5 | 24        |
| 22 | Synthesis of Complex Organic Molecules in Soft X-Ray Irradiated Ices. <i>Astrophysical Journal</i> , 2019, 879, 21.   | 4.5 | 24        |
| 23 | H <sub>2</sub> O + O <sub>2</sub> Collision Rate Coefficients. <i>Astrophysical Journal, Supplement Series</i> , 2000, 128, 597-601.  | 7.7 | 23        |
| 24 | Porous interstellar grains. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 322, 749-756.  | 4.4 | 23        |
| 25 | C <sub>2</sub> absorption-line diagnostics of diffuse interstellar clouds. <i>Monthly Notices of the Royal Astronomical Society</i> , 2002, 331, L31-L34.   | 4.4 | 23        |
| 26 | Hydrated sulphuric acid in dense molecular clouds. <i>Monthly Notices of the Royal Astronomical Society</i> , 2003, 341, 657-661.   | 4.4 | 23        |
| 27 | SOFT X-RAY IRRADIATION OF PURE CARBON MONOXIDE INTERSTELLAR ICE ANALOGUES. <i>Astrophysical Journal Letters</i> , 2012, 746, L1.  | 8.3 | 23        |
| 28 | Role of clays in protecting adsorbed DNA against X-ray radiation. <i>International Journal of Astrobiology</i> , 2004, 3, 31-35.  | 1.6 | 22        |
| 29 | The GAPS Programme at TNG. <i>Astronomy and Astrophysics</i> , 2022, 658, A136.   | 5.1 | 20        |
| 30 | A radical route to interstellar propylene formation. <i>Monthly Notices of the Royal Astronomical Society: Letters</i> , 2013, 436, L59-L63.  | 3.3 | 19        |
| 31 | X-ray versus Ultraviolet Irradiation of Astrophysical Ice Analogs Leading to Formation of Complex Organic Molecules. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 2138-2157.                               | 2.7 | 19        |
| 32 | FORMATION PUMPING OF MOLECULAR HYDROGEN IN DARK CLOUDS. <i>Astrophysical Journal</i> , 2010, 725, 1111-1123.  | 4.5 | 18        |
| 33 | SOFT X-RAY IRRADIATION OF METHANOL ICE: IMPLICATION FOR H <sub>2</sub> CO FORMATION IN INTERSTELLAR REGIONS. <i>Astrophysical Journal Letters</i> , 2010, 722, L45-L48.                                       | 8.3 | 18        |
| 34 | Evolving interstellar extinction. <i>Monthly Notices of the Royal Astronomical Society</i> , 1998, 296, 414-418.  | 4.4 | 17        |
| 35 | CHEMICAL EVOLUTION OF A CO ICE INDUCED BY SOFT X-RAYS. <i>Astrophysical Journal</i> , 2016, 819, 38.  | 4.5 | 17        |
| 36 | Dust Motions in Magnetized Turbulence: Source of Chemical Complexity. <i>Astrophysical Journal Letters</i> , 2018, 866, L23.  | 8.3 | 17        |

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|----|---|-----|-----------|
| 37 | Detection of HCO <sup>+</sup> towards Cygnus OB2 No. 12. Monthly Notices of the Royal Astronomical Society, 2000, 317, L6-L10.  | 4.4 | 16        |
| 38 | Photo-evaporation of close-in gas giants orbiting around G and M stars. Astronomy and Astrophysics, 2019, 624, A101.  | 5.1 | 16        |
| 39 | X-ray processing of a realistic ice mantle can explain the gas abundances in protoplanetary disks. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16149-16153. | 7.1 | 16        |
| 40 | Dust Extinction in a Small Molecular Cloud. Astrophysical Journal, 2001, 558, 717-729.  | 4.5 | 16        |
| 41 | X-Ray Photo-desorption of H <sub>2</sub> O:CO:NH <sub>3</sub> Circumstellar Ice Analogs: Gas-phase Enrichment. Astrophysical Journal, 2018, 868, 73.  | 4.5 | 15        |
| 42 | Large prebiotic molecules in space: photophysics of acetic acid and its isomers. Monthly Notices of the Royal Astronomical Society, 2010, 402, 1667-1674.   | 4.4 | 14        |
| 43 | Chemical Evolution of Interstellar Methanol Ice Analogs upon Ultraviolet Irradiation: The Role of the Substrate. Astrophysical Journal, 2018, 858, 35.  | 4.5 | 14        |
| 44 | The discovery of clumpy structure in the diffuse gas towards Cyg OB2 No. 12. Monthly Notices of the Royal Astronomical Society, 2002, 337, 495-498.   | 4.4 | 13        |
| 45 | H <sub>2</sub> excitation in turbulent interstellar clouds. Monthly Notices of the Royal Astronomical Society, 2005, 364, 1309-1314.  | 4.4 | 13        |
| 46 | Mapping UV radiation in dark clouds. Monthly Notices of the Royal Astronomical Society, 1995, 274, 134-146.   | 4.4 | 11        |
| 47 | EXCITATION OF C <sub>2</sub> IN DIFFUSE INTERSTELLAR CLOUDS. Astrophysical Journal, 2012, 749, 48.  | 4.5 | 11        |
| 48 | Effects of 150-1000 eV Electron Impacts on Pure Carbon Monoxide Ices Using the Interstellar Energetic-Process System (IEPS). Astrophysical Journal, 2020, 889, 57.  | 4.5 | 11        |
| 49 | R V-dependent Interstellar Photodestruction Rates. Astrophysical Journal, Supplement Series, 1995, 100, 187.  | 7.7 | 11        |
| 50 | Millimeter-Wave Observations of Molecular Lines toward Bok Globules and Herbig Ae/Be Stars. Astrophysical Journal, 1998, 504, 866-873.  | 4.5 | 11        |
| 51 | On the formation and survival of complex prebiotic molecules in interstellar grain aggregates. International Journal of Astrobiology, 2004, 3, 287-293.   | 1.6 | 10        |
| 52 | Ultraviolet Radiation inside Interstellar Grain Aggregates. I. The Density of Radiation. Astrophysical Journal, 2005, 624, 223-231.   | 4.5 | 10        |
| 53 | The diffuse clouds towards Cyg OB2 No. 5 and No. 12. Monthly Notices of the Royal Astronomical Society, 2005, 359, 73-78.   | 4.4 | 10        |
| 54 | CHEMISTRY IN EVAPORATING ICES—UNEXPLORED TERRITORY. Astrophysical Journal, 2010, 725, 1581-1586.  | 4.5 | 10        |

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|----|---|-----|-----------|
| 55 | The formation of glycine and other complex organic molecules in exploding ice mantles. <i>Faraday Discussions</i> , 2014, 168, 369-388.   | 3.2 | 10        |
| 56 | Radiative transfer in a stochastic universe. <i>New Astronomy</i> , 2001, 6, 151-163.   | 1.8 | 9         |
| 57 | Retrieval of minor constituents in a cloudy atmosphere with remote-sensing millimetre-wave measurements. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2007, 133, 163-170.             | 2.7 | 9         |
| 58 | CHEMISTRY IN DIFFUSE CLOUDS WITH TRANSIENT MICROSTRUCTURE. <i>Astrophysical Journal</i> , 2009, 706, 1429-1432.   | 4.5 | 9         |
| 59 | OBSERVATIONAL EVIDENCE OF DUST EVOLUTION IN GALACTIC EXTINCTION CURVES. <i>Astrophysical Journal</i> , 2014, 785, 41.   | 4.5 | 9         |
| 60 | SOFT X-RAY IRRADIATION OF SILICATES: IMPLICATIONS FOR DUST EVOLUTION IN PROTOPLANETARY DISKS. <i>Astrophysical Journal</i> , 2016, 828, 29.   | 4.5 | 9         |
| 61 | Ångström X-ray spheres around active stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2018, 473, 447-456.  | 4.4 | 9         |
| 62 | HOT HYDROGEN IN DIFFUSE CLOUDS. <i>Astrophysical Journal</i> , 2012, 755, 119.  | 4.5 | 8         |
| 63 | Extreme-ultraviolet- and X-Ray-driven Photochemistry of Gaseous Exoplanets. <i>Planetary Science Journal</i> , 2022, 3, 1.  | 3.6 | 8         |
| 64 | The Structure of the Small Dark Cloud CB 107. <i>Astrophysical Journal</i> , 2004, 616, 319-330.  | 4.5 | 7         |
| 65 | The nature of interstellar dust as revealed by light scattering. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2012, 113, 2310-2320.   | 2.3 | 7         |
| 66 | Redshifted diffuse interstellar bands in the Orion OB1 association. <i>Monthly Notices of the Royal Astronomical Society</i> , 2015, 451, 3210-3218.  | 4.4 | 7         |
| 67 | Modelling the CO emission in southern Bok globules. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 326, 1255-1260.  | 4.4 | 6         |
| 68 | Optical properties of interstellar grain aggregates. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2004, 89, 43-51.  | 2.3 | 6         |
| 69 | Ultraviolet Radiation inside Interstellar Grain Aggregates. II. Field Depolarization. <i>Astrophysical Journal</i> , 2005, 633, 953-966.  | 4.5 | 6         |
| 70 | Atomistic simulations of the free-energy landscapes of interstellar chemical reactions: the case of methyl isocyanate. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 504, 1565-1570. | 4.4 | 6         |
| 71 | Detection of CS emission towards Cygnus OB2 No. 12. <i>Astronomy and Astrophysics</i> , 2007, 466, 243-246.   | 5.1 | 6         |
| 72 | Dust-induced chemical differentiation in dense regions. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001, 325, 826-834.  | 4.4 | 5         |

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|----|--|-----|-----------|
| 73 | ULTRAVIOLET RADIATION INSIDE INTERSTELLAR GRAIN AGGREGATES. III. FLUFFY GRAINS. <i>Astrophysical Journal</i> , 2009, 701, 1426-1435.   | 4.5 | 5         |
| 74 | Modelling peculiar extinction curves. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, , no-no.  | 4.4 | 5         |
| 75 | Optical tweezers in a dusty universe. <i>European Physical Journal Plus</i> , 2021, 136, 1.  | 2.6 | 5         |
| 76 | X-Ray-induced Diffusion and Mixing in Layered Astrophysical Ices. <i>Astrophysical Journal</i> , 2022, 926, 176.   | 4.5 | 5         |
| 77 | Radiative transfer in the stochastic interstellar medium. <i>Transport Theory and Statistical Physics</i> , 1999, 28, 199-228.   | 0.4 | 4         |
| 78 | On the polarization and depolarization of the electromagnetic waves. <i>Journal of Physics: Conference Series</i> , 2005, 6, 59-72.  | 0.4 | 4         |
| 79 | Stratified dust grains in the interstellar medium. III. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1898-1906.                               | 2.3 | 4         |
| 80 | EXTRAGALACTIC INTERSTELLAR EXTINCTION CURVES: INDICATORS OF LOCAL PHYSICAL CONDITIONS. <i>Astrophysical Journal</i> , 2014, 788, 100.  | 4.5 | 4         |
| 81 | A solution to the problem of radiation transfer in inhomogeneous media using the SHM. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1992, 47, 95-102.     | 2.3 | 3         |
| 82 | Mathematical methods for photon transport in random media. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2000, 65, 835-851.                               | 2.3 | 3         |
| 83 | Retrieving physical conditions from interstellar H <sub>2</sub> emission lines: a non linear fitting technique. <i>Journal of Physics: Conference Series</i> , 2005, 6, 191-196. | 0.4 | 3         |
| 84 | A new Bok globule towards Cygnus OB2 No. 12. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010, 407, 1255-1258.  | 4.4 | 3         |
| 85 | The regulatory role of R <sub>v</sub> in the photochemistry of dark clouds. <i>Planetary and Space Science</i> , 1995, 43, 1319-1323.  | 1.7 | 2         |
| 86 | A kinetic model for dust coagulation. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2001, 70, 1-9.  | 2.3 | 2         |
| 87 | Radiative transfer in a stochastic universe. <i>New Astronomy</i> , 2001, 6, 165-172.  | 1.8 | 2         |
| 88 | Aggregation of interstellar dust grains: effects on optical properties and dynamical behaviour. <i>Journal of Physics: Conference Series</i> , 2005, 6, 149-154.                 | 0.4 | 2         |
| 89 | Light within small particles. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2006, 100, 157-164.   | 2.3 | 2         |
| 90 | Polycyclic Aromatic Hydrocarbons and the Extinction Curve. <i>EAS Publications Series</i> , 2011, 46, 327-340.   | 0.3 | 2         |

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|-----|---|-----|-----------|
| 91  | MODELING DUST IN THE MAGELLANIC CLOUDS. <i>Astrophysical Journal</i> , 2015, 810, 70.   | 4.5 | 2         |
| 92  | A systematic study of CO <sub>2</sub> planetary atmospheres and their link to the stellar environment. <i>Monthly Notices of the Royal Astronomical Society</i> , 2020, 496, 5350-5359. | 4.4 | 2         |
| 93  | The young hard active Sun: soft X-ray irradiation of tryptophan in water solutions. <i>International Journal of Astrobiology</i> , 2011, 10, 67-75.                                     | 1.6 | 1         |
| 94  | Planet interactions at a young age. <i>Astronomische Nachrichten</i> , 2022, 343, .   | 1.2 | 1         |
| 95  | Chemistry in Space. <i>Il Nuovo Cimento Della Societ  Italiana Di Fisica C</i> , 1992, 15, 1047-1069.   | 0.2 | 0         |
| 96  | Radiative transfer modelling in protoplanetary disks with the P N Approximation and Monte Carlo techniques. <i>Mathematical Methods in the Applied Sciences</i> , 2010, 33, 1263-1273.  | 2.3 | 0         |
| 97  | THE CHEMICAL AGE OF THE BOK GLOBULE CB238. <i>Astronomical Journal</i> , 2011, 142, 70.   | 4.7 | 0         |
| 98  | Modeling Galactic Extinction with dust and "real" PAHs. <i>Journal of Physics: Conference Series</i> , 2013, 470, 012009.   | 0.4 | 0         |
| 99  | Preparing EChO space mission: laboratory simulation of planetary atmospheres. , 2014, , .   |     | 0         |
| 100 | MODELING EXTRAGALACTIC EXTINCTION THROUGH GAMMA-RAY BURST AFTERGLOWS. <i>Astrophysical Journal</i> , 2016, 829, 22.   | 4.5 | 0         |
| 101 | Organics on the Rocks: A Cosmic Origin for the Seeds of Life. <i>Springer Proceedings in Physics</i> , 2021, , 27-34.   | 0.2 | 0         |