

CURRICULUM VITAE

(updated 01/13/26)

David A. Neufeld

Positions held:

- 2025 – present: Professor Emeritus and Research Professor,
Department of Physics & Astronomy,
The Johns Hopkins University
- 1997 – 2025: Professor, Department of Physics & Astronomy,
The Johns Hopkins University
- 1993 – 97: Associate Professor, Department of Physics & Astronomy,
The Johns Hopkins University
- 1989 – 93: Assistant Professor, Department of Physics & Astronomy,
The Johns Hopkins University
- 1987 – 90: Visiting Postdoctoral, Astronomy Department,
University of California, Berkeley

Education:

- 1987: Ph.D. (Astronomy), Harvard University
- 1983: M.Sc. (Astronomy), Sussex University
- 1981: B.A. (Natural Sciences), Cambridge University

Research interests:

Molecular astrophysics; submillimeter and far-infrared astronomy; astrophysical masers; interstellar medium; dark matter detection

- Co-I on Submillimeter Wave Astronomy Satellite (SWAS, past NASA SMEX Mission)
- Astronomy Co-I on HIFI (Herschel Space Observatory instrument)
- PI on multiple Infrared Space Observatory, Spitzer, Herschel, SOFIA and JWST GO programs
- Co-I on SOFIA/EXES science team (cross-dispersed echelle spectrometer)
- Co-I on GUSTO science team (balloon-borne CII mapping experiment)
- PI on HyGAL (SOFIA Legacy Program)
- Co-I on multiple JWST programs

Graduate Students and Postdoctoral Fellows supervised:

Graduate students: Michael J. Kaufman (1/91 – 12/94), Wesley Chen (7/92 – 12/97)
Saavik Ford (7/00 – 8/03), Yuan Yuan (7/06 – 5/12)

Postdoctoral fellows: Steven Doty (2/95 – 5/97), Marco Spaans (10/95 – 9/97),
Paule Sonnentrucker (9/04 – 5/10), Nick Indriolo (7/11 – 8/14),
Arshia Jacob (6/21 – 6/24)

Prizes, Fellowships and honors

2022: Dalgarno memorial lecturer
1996: Bok Prize of Harvard University
1993: National Science Foundation Young Investigator Award
1981: Harkness Fellowship

Teaching

Radiative Processes in Astrophysics; Interstellar Medium and Fluid Mechanics; Molecular Astrophysics; Numerical methods for Physicists; Physics Seminar; Stars and Stellar Evolution (graduate courses);

Introduction to Astrophysics; Stars and the Universe; General Physics; Introduction to Frontier Physics; Special Relativity and Waves (undergraduate courses)

PUBLICATIONS

In refereed journals

Total of 257 refereed papers with 14,802 ADS citations / 20057 Google scholar citations:
ADS H-index = 69 / Google scholar H-index = 79
(Includes 68 first author papers with 4652 ADS citations: first author ADS H-index = 36)

Tyagi, H., et al. 2025. Evidence for an Opacity Hole and Thermal Processing of Ices. *The Astrophysical Journal*, 983, 110 (2025)

Jacob, A. M., Nandakumar, M., Roy, N., Menten, K. M., Neufeld, D. A., Faure, A., Tiwari, M., Pillai, T. G. S., Robishaw, T., Durán, C. A. Revisiting rotationally excited CH at radio wavelengths: A case study towards W51. *Astronomy and Astrophysics*, 692, A164 (2024)

Neufeld, D. A., DeWitt, C., Lesaffre, P., Cabrit, S., Gusdorf, A., Tram, L. N., Reach, W. T.. SOFIA/EXES Observations of Warm H₂ at High Spectral Resolution. II. IC 443C, NGC 2071, and 3C 391. *The Astrophysical Journal*, 976, 3 (2024)

Kálosi, Ábel, Grieser, Manfred, Isberner, Leonard W., Kreckel, Holger, Larson, Åsa, **Neufeld, David A.**, Orel, Ann E., Paul, Daniel, Savin, Daniel W., Schippers, Stefan, Schmidt, Viviane C., Wolf, Andreas, Wolfire, Mark G., and Novotný, Oldřich. Dissociative recombination of rotationally cold ArH⁺. *Physical Review A*, 110 022816, (2024)

Neufeld, D. A., Welty, D. E., Ivlev, A. V., Caselli, P., Edenhofer, G., Indriolo, N., Obolentseva, M., Silsbee, K., Sonnentrucker, P., Wolfire, M. G.. The Densities in Diffuse and Translucent Molecular Clouds: Estimates from Observations of C₂ and from Three-dimensional Extinction Maps. *The Astrophysical Journal*, 973, 143 (2024)

- Obolentseva, M., Ivlev, A. V., Silsbee, K., Neufeld, D. A., Caselli, P., Edenhofer, G., Indriolo, N., Bisbas, T. G., Lomeli, D.. Reevaluation of the Cosmic-Ray Ionization Rate in Diffuse Clouds. *The Astrophysical Journal*, 973, 142 (2024)
- Neufeld, D. A., Manoj, P., Tyagi, H., Narang, M., Watson, D. M., Megeath, S. T., Van Dishoeck, E. F., Gutermuth, R. A., Stanke, T., Yang, Y.-L., Rubinstein, A. E., Anglada, G., Beuther, H., Caratti o Garatti, A., Evans, N. J., Federman, S., Fischer, W. J., Green, J., Klaassen, P., Looney, L. W., Osorio, M., Nazari, P., Tobin, J. J., Tychoniec, Ł., Wolk, S.. JWST/MIRI Detection of Suprathermal OH Rotational Emissions: Probing the Dissociation of the Water by Ly α Photons near the Protostar HOPS 370. *The Astrophysical Journal*, 966, L22 (2024)
- Dell'Ova, P., Gusdorf, A., Gerin, M., Motte, F., Godard, B., Neufeld, D., Reach, W. T., Tram, L. N., Noriega-Crespo, A., Cristofari, P.. Temperature stratification in a molecular shock: Analysis of the emission of H₂ pure rotational lines in IC443G. *Astronomy and Astrophysics*, 685, A69 (2024)
- González-Alfonso, E., García-Bernete, I., Pereira-Santaella, M., Neufeld, D. A., Fischer, J., Donnan, F. R.. JWST detection of extremely excited outflowing CO and H₂O in VV 114 E SW: A possible rapidly accreting IMBH. *Astronomy and Astrophysics*, 682, A182 (2024)
- Kálosi, Á., L. Gamer, M. Grieser, R. von Hahn, L. W. Isberner, J. I. Jäger, H. Kreckel, D. A. Neufeld, D. Paul, D. W. Savin, S. Schippers, V. C. Schmidt, A. Wolf, M. G. Wolfire, and O. Novotný., Dissociative Recombination of Rotationally Cold OH⁺ and Its Implications for the Cosmic Ray Ionization Rate in Diffuse Clouds, *The Astrophysical Journal*, 955, L26 (2023)
- Li, J., Boogert A., Barr, A. G., DeWitt, C., Rashman, M., Neufeld, D. A., Indriolo, N., Pendleton, Y. , Montiel, E., Richter, M., Chiar, J. E., and Tielens, A. G. G. M., High-resolution SOFIA/EXES Spectroscopy of Water Absorption Lines in the Massive Young Binary W3 IRS 5, *The Astrophysical Journal* 953, 103 (2023)
- Kim, W.-J., P. Schilke, D. A. Neufeld, A. M. Jacob, Á. Sánchez-Monge, D. Seifried, B. Godard, K. M. Menten, S. Walch, E. Falgarone, V. S. Veena, S. Bialy, T. Möller, and F. Wyrowski, HyGAL: Characterizing the Galactic ISM with observations of hydrides and other small molecules. II. The absorption line survey with the IRAM 30 m telescope, *Astronomy and Astrophysics* 670, A111 (2023)
- Paul, D., Grieser, M., Grussie, F., von Hahn, R., Isberner, L. W., Kálosi, Á., Krantz, C., Kreckel, H., Müll, D., **Neufeld, D. A.**, Savin, D. W., Schippers, S., Wilhelm, P., Wolf, A., Wolfire, M. G., & Novotný, O., Experimental Determination of the Dissociative Recombination Rate Coefficient for Rotationally Cold CH⁺ and Its Implications for Diffuse Cloud Chemistry, *ApJ*, 939, 122 (2022)
- Neufeld, D. A.**, Infrared Line Emissions from Atoms and Atomic Ions in NGC 7027: Improved Wavelength Determinations for Infrared Metal Lines and a Probable Detection of Zn⁵⁺, *ApJ*, 933, 8 (2022)
- Jacob, A. M.**, Neufeld, D. A., Schilke, P., Wiesemeyer, H., Kim, W.-J., Bialy, S., Busch, M., Elia, D., Falgarone, E., Gerin, M., Godard, B., Higgins, R., Hennebelle, P., Indriolo, N., Lis, D. C., Menten, K. M., Sanchez-Monge, A., Möller, T., Ossenkopf-Okada, V., Rugel, M. R., Seifried, D., Sonnentrucker, P., Walch, S., Wolfire, M. G., Wyrowski, F., & Valdivia, V., HyGAL: Characterizing the Galactic Interstellar Medium with Observations of Hydrides and Other Small Molecules. I. Survey Description and a First Look Toward W3(OH), W3 IRS5, and NGC 7538 IRS1, *ApJ*, 930, 141 (2022)
- Jacob, A. M., Menten, K. M., Wyrowski, F., Winkel, B., **Neufeld, D. A.**, & Koribalski, B. S., ArH⁺ and H₂O⁺ absorption towards luminous galaxies, *A&A*, 659, A152 (2022)

Neufeld, D. A., H. Wiesemeyer, M. J. Wolfire, A. M. Jacob, C. Buchbender, M. Gerin, H. Gupta, R. Güsten, and P. Schilke, The Chemistry of Chlorine-bearing Species in the Diffuse Interstellar Medium, and New SOFIA/GREAT Observations of HCl^+ , *ApJ*, 917, 104 (2021)

Changala, P. B., **D. A. Neufeld**, and B. Godard, Anomalous Intensities in the Infrared Emission of CH^+ Explained by Quantum Nuclear Motion and Electric Dipole Calculations, *ApJ*, 917, 16 (2021)

Neufeld, D. A., B. Godard, P. Bryan Changala, A. Faure, T. R. Geballe, R. Güsten, K. M. Menten, and H. Wiesemeyer, Observations and Analysis of CH^+ Vibrational Emissions from the Young, Carbon-rich Planetary Nebula NGC 7027: A Textbook Example of Chemical Pumping, *ApJ*, 917, 15 (2021)

van Dishoeck, E. F., and 52 colleagues, Water in star-forming regions: physics and chemistry from clouds to disks as probed by Herschel spectroscopy, *A&A*, 648, A24 (2021)

Wiedner, M. C., and 50 colleagues, Heterodyne Receiver for Origins, *Journal of Astronomical Telescopes, Instruments, and Systems* 7, 011007 (2021)

Neufeld, D. A., and 10 colleagues, Terahertz Water Masers. II. Further SOFIA/GREAT Detections Toward Circumstellar Outflows, and a Multitransition Analysis, *ApJ*, 907, 42 (2021)

Jacob, A. M., Menten, K. M., Wyrowski, F., Winkel, B., & **Neufeld, D. A.**, Extending the view of ArH^+ chemistry in diffuse clouds, *Astronomy and Astrophysics*, 643, A91 (2020).

Barr, A. G., Boogert, A., DeWitt, C. N., Montiel, E., Richter, M. J., Lacy, J. H., Neufeld, D. A., Indriolo, N., Pendleton, Y., Chiar, J., & Tielens, A. G. G. M., High-resolution Infrared Spectroscopy of Hot Molecular Gas in AFGL 2591 and AFGL 2136: Accretion in the Inner Regions of Disks around Massive Young Stellar Objects, *The Astrophysical Journal*, 900, 104 (2020).

Indriolo, N., **Neufeld, D. A.**, Barr, A. G., Boogert, A. C. A., DeWitt, C. N., Karska, A., Montiel, E. J., Richter, M. J., & Tielens, A. G. G. M., The H_2O Spectrum of the Massive Protostar AFGL 2136 IRS 1 from 2 to 13 μm at High Resolution: Probing the Circumstellar Disk, *The Astrophysical Journal*, 894, 107 (2020).

Neufeld, D. A., Goto, M., Geballe, T. R., Güsten, R., Menten, K. M., & Wiesemeyer, H., Detection of Vibrational Emissions from the Helium Hydride Ion (HeH^+) in the Planetary Nebula NGC 7027, *The Astrophysical Journal*, 894, 37 (2020).

Melnick, G. J., Tolls, V., Snell, R. L., Kaufman, M. J., Bergin, E. A., Goicoechea, J. R., Goldsmith, P. F., González-Alfonso, E., Hollenbach, D. J., Lis, D. C., & **Neufeld, D. A.**, Distribution of Water Vapor in Molecular Clouds. II, *The Astrophysical Journal*, 892, 22 (2020).

Bialy, S., **Neufeld, D.**, Wolfire, M., Sternberg, A., & Burkhardt, B., Chemical Abundances in a Turbulent Medium- H_2 , OH^+ , H_2O^+ , ArH^+ , *The Astrophysical Journal*, 885, 109 (2019).

Busch, M. P., Allen, R. J., Engelke, P. D., Hogg, D. E., **Neufeld, D. A.**, & Wolfire, M. G., The Structure of Dark Molecular Gas in the Galaxy. II. Physical State of “CO-dark” Gas in the Perseus Arm, *The Astrophysical Journal*, 883, 158 (2019).

Neufeld, D. A., DeWitt, C., Lesaffre, P., Cabrit, S., Gusdorf, A., Tram, L. N., & Richter, M., SOFIA/EXES Observations of Warm H_2 at High Spectral Resolution: Witnessing Para-to-ortho Conversion behind a Molecular Shock Wave in HH7, *The Astrophysical Journal*, 878, L18 (2019).

- Neufeld, D. A.**, & Brach-Neufeld, D. J., Dark Matter That Interacts with Baryons: Experimental Limits on the Interaction Cross Section for 27 Atomic Nuclei, and Resultant Constraints on the Particle Properties, *The Astrophysical Journal*, 877, 8 (2019).
- Güsten, R., Wiesemeyer, H., **Neufeld, D.**, Menten, K. M., Graf, U. U., Jacobs, K., Klein, B., Ricken, O., Risacher, C., & Stutzki, J., Astrophysical detection of the helium hydride ion HeH+, *Nature*, 568, 357 (2019).
- Dagdigan, P. J., Klos, J., Wolfire, M., & **Neufeld, D. A.**, Calculation of the Rate of the $C^{+} + HF \rightarrow CF^{+} + H$ Reaction: Implications for Fluorine Chemistry in the Interstellar Medium, *The Astrophysical Journal*, 872, 203 (2019).
- Gerin, M., Liszt, H., **Neufeld, D.**, Godard, B., Sonnentrucker, P., Pety, J., & Roueff, E., Molecular ion abundances in the diffuse ISM: CF+, HCO+, HOC+ and C3H+, *Astronomy and Astrophysics*, 622, A26 (2019).
- Goldsmith PF, Pineda JL, **Neufeld DA**, Wolfire MG, Risacher C, Simon R. Velocity-resolved [C II] Emission from Cold Diffuse Clouds in the Interstellar Medium. *Astrophysical Journal*. 2018; 856(2). DOI: 10.3847/1538-4357/aab34e.
- Barr AG, Boogert A, Dewitt CN, Montiel E, Richter MJ, Indriolo N, **Neufeld DA**, Pendleton Y, Chiar J, Dungee R, Tielens AGGM. Infrared Detection of Abundant CS in the Hot Core AFGL 2591 at High Spectral Resolution with SOFIA/EXES. *Astrophysical Journal Letters*. 2018; 868(1). DOI: 10.3847/2041-8213/aabeb23.
- SOFIA/EXES Spectroscopy of SO₂ Gas in the Massive Young Stellar Object MonR2 IRS3: Implications for the Sulfur Budget. *Astrophysical Journal Letters*. 2018; 868(1):L10.
- Neufeld DA**, Farrar GR, McKee CF. Dark Matter that Interacts with Baryons: Density Distribution within the Earth and New Constraints on the Interaction Cross-section. *Astrophysical Journal*. 2018; 866(2). DOI: 10.3847/1538-4357/aad6a4.
- Indriolo N, Tan JC, Boogert ACA, Dewitt CN, Montiel EJ, **Neufeld DA**, Richter MJ. High Spectral Resolution Observations toward Orion BN at 6 μ m: No Evidence for Hot Water. *Astrophysical Journal Letters*. 2018; 865(2). DOI: 10.3847/2041-8213/aae1ff.
- Indriolo N, Bergin EA, Falgarone E, Godard B, Zwaan MA, **Neufeld DA**, Wolfire MG. Constraints on the Cosmic-Ray Ionization Rate in the $z \sim 2.3$ Lensed Galaxies SMM J2135-0102 and SDP 17b from Observations of OH⁺ and H₂O⁺. *Astrophysical Journal*. 2018; 865(2). DOI: 10.3847/1538-4357/aad7b3.
- Ryan Dungee, Adwin Boogert, Curtis N DeWitt, Edward Montiel, Matthew J Richter, Andrew G Barr, Geoffrey A Blake, Steven B Charnley, Nick Indriolo, Agata Karska, **Neufeld DA**, Rachel L Smith, Alexander GGM Tielens. High-resolution
- “The Cosmic-Ray Ionization Rate in the Galactic Disk, as Determined from Observations of Molecular Ions., **Neufeld, D. A.**, and Wolfire, M. G., *ApJ*, 845, 163 (2017)
- “SOFIA/GREAT Discovery of Terahertz Water Masers,” **Neufeld, D. A.**, Melnick, G. J., Kaufman, M. J., Wiesemeyer, H., Güsten, R., Kraus, A., Menten, K. M., Ricken, O., Faure, A., *ApJ*, 843, 163 (2017)

- "Survey of Cold Water Lines in Protoplanetary Disks: Indications of Systematic Volatile Depletion," Du, F., and 13 colleagues, *ApJ*, 842, 98 (2017)
- "Hydrogen in diffuse molecular clouds in the Milky Way. Atomic column densities and molecular fraction along prominent lines of sight," Winkel, B., Wiesemeyer, H., Menten, K. M., Sato, M., Brunthaler, A., Wyrowski, F., **Neufeld, D.**, Gerin, M., Indriolo, N., *A&A*, 600, A2 (2017)
- "Search for Interstellar LiH in the Milky Way," **Neufeld, D. A.**, Goldsmith, P. F., Comito, C., Schmiedeke, A., *ApJ*, 837, 52 (2017)
- "Interstellar Hydrides," Gerin, M., **Neufeld, D. A.**, and Goicoechea, J. R., *ARAA*, 54, 181 (2016)
- "Herschel/HIFI Spectral Mapping of C⁺, CH⁺, and CH in Orion BN/KL: The Prevailing Role of Ultraviolet Irradiation in CH⁺ Formation," Morris, P. W., Gupta, H., Nagy, Z., Pearson, J. C., Ossenkopf-Okada, V., Falgarone, E., Lis, D. C., Gerin, M., Melnick, G., **Neufeld, D. A.**, and Bergin, E. A., *ApJ*, 829, 15 (2016)
- "Evolution of Mass Outflow in Protostars," Watson, D. M., Calvet, N. P., Fischer, W. J., Forrest, W. J., Manoj, P., Megeath, S. T., Melnick, G. J., Najita, J., **Neufeld, D. A.**, Sheehan, P. D., Stutz, A. M., and Tobin, J. J., *ApJ*, 828, 52 (2016)
- "The Chemistry of Interstellar Argonium and Other Probes of the Molecular Fraction in Diffuse Clouds," **Neufeld, D. A.** and Wolfire, M. G., *ApJ*, 826, 183 (2016)
- "Herschel/HIFI observations of the circumstellar ammonia lines in IRC+10216," Schmidt, M. R., He, J. H., Szczerba, R., Bujarrabal, V., Alcolea, J., Cernicharo, J., Decin, L., Justtanont, K., Teyssier, D., Menten, K. M., **Neufeld, D. A.**, Olofsson, H., Planesas, P., Marston, A. P., Sobolev, A. M., de Koter, A., and Schoier, F. L., *A&A*, 592, A131 (2016)
- "Constraints on the H₂O formation mechanism in the wind of carbon-rich AGB stars," Lombaert, R., Decin, L., Royer, P., de Koter, A., Cox, N. L. J., Gonzalez-Alfonso, E., **Neufeld, D.**, De Ridder, J., Agundez, M., Blommaert, J. A. D. L., Khouri, T., Groenewegen, M. A. T., Kerschbaum, F., Cernicharo, J., Vandenbussche, B., and Waelkens, C., *A&A*, 588, A124, (2016)
- "Far-infrared study of tracers of oxygen chemistry in diffuse clouds," Wiesemeyer, H., Gusten, R., Heyminck, S., Hubers, H. W., Menten, K. M., **Neufeld, D. A.**, Richter, H., Simon, R., Stutzki, J., Winkel, B., and Wyrowski, F., *A&A*, 585, A76, (2016)
- "Detection of extragalactic argonium, ArH⁺, toward PKS 1830-211," Muller, H. S. P., Muller, S., Schilke, P., Bergin, E. A., Black, J. H., Gerin, M., Lis, D. C., **Neufeld, D. A.**, & Suri, S., *A&A*, 582, L4 (2015)
- "Herschel Observations of Interstellar Chloronium. II. Detections toward G29.96-0.02, W49N, W51, and W3(OH), and Determinations of the Ortho-to-Para and 35Cl/37Cl Isotopic Ratios," **Neufeld, D. A.**, Black, J. H., Gerin, M., Goicoechea, J. R., Goldsmith, P. F., Gry, C., Gupta, H., Herbst, E., Indriolo, N., Lis, D., Menten, K. M., Monje, R., Mookerjee, B., Persson, C., Schilke, P., Sonnentrucker, P., & Wolfire, M. G., *ApJ*, 807, 54 (2015)
- "Widespread galactic CF⁺ absorption: detection toward W49 with the Plateau de Bure Interferometer," Liszt, H. S., Guzman, V. V., Pety, J., Gerin, M., **Neufeld, D. A.**, & Gratier, P., *A&A*, 579, A12 (2015)
- "A Herschel/HIFI Legacy Survey of HF and H₂O in the Galaxy: Probing Diffuse Molecular Cloud Chemistry," Sonnentrucker, P., Wolfire, M., **Neufeld, D. A.**, Flagey, N., Gerin, M., Goldsmith, P., Lis, D., & Monje, R., *ApJ*, 806, 49 (2015)

- "Sulphur-bearing molecules in diffuse molecular clouds: new results from SOFIA/GREAT and the IRAM 30 m telescope, "Neufeld, D. A., Godard, B., Gerin, M., Pineau des Forêts, G., Bernier, C., Falgarone, E., Graf, U. U., Güsten, R., Herbst, E., Lesaffre, P., Schilke, P., Sonnentrucker, P., & Wiesemeyer, H., A&A, 577, A49 (2015)
- "SOFIA/EXES Observations of Water Absorption in the Protostar AFGL 2591 at High Spectral Resolution, "Indriolo, N., Neufeld, D. A., DeWitt, C. N., Richter, M. J., Boogert, A. C. A., Harper, G. M., Jaffe, D. T., Kulas, K. R., McKelvey, M. E., Ryde, N., & Vacca, W., ApJ, 802, L14 (2015)
- "[O I] 63 μ m Jets in Class 0 Sources Detected By Herschel, "Nisini, B., Santangelo, G., Giannini, T., Antonucci, S., Cabrit, S., Codella, C., Davis, C. J., Eisloffel, J., Kristensen, L., Herczeg, G., Neufeld, D., & van Dishoeck, E. F., ApJ, 801, 121 (2015)
- "Herschel Survey of Galactic OH⁺, H₂O⁺, and H₃O⁺: Probing the Molecular Hydrogen Fraction and Cosmic-Ray Ionization Rate, "Indriolo, N., Neufeld, D. A. et al., ApJ, 800, 40 (2015)
- "[C II] absorption and emission in the diffuse interstellar medium across the Galactic plane," Gerin, M., et al., A&A, 573, A30, (2015)
- "ALMA data suggest the presence of spiral structure in the inner wind of CW Leonis, "Decin, L., Richards, A. M. S., Neufeld, D., Steffen, W., Melnick, G., & Lombaert, R., A&A, 574, A5 (2015)
- "Herschel Far-infrared Spectral-mapping of Orion BN/KL Outflows: Spatial Distribution of Excited CO, H₂O, OH, O, and C⁺ in Shocked Gas, "Goicoechea, J. R., Chavarría, L., Cernicharo, J., Neufeld, D. A., Vavrek, R., Bergin, E. A., Cuadrado, S., Encrenaz, P., Etxaluze, M., Melnick, G. J., & Polehampton, E., ApJ, 799, 102 (2015)
- "ALMA sub-mm maser and dust distribution of VY Canis Majoris," Richards, A.M. S., et al., A&A, 572, L9 (2014)
- "Shockingly low water abundances in Herschel/PACS observations of low-mass protostars in Perseus," Karska, A., et al., A&A, 572, A9 (2014)
- "Discovery of Time Variation of the Intensity of Molecular Lines in IRC+10216 in the Submillimeter and Far-Infrared Domains," Cernicharo, J., et al., ApJ, 796, L21 (2014)
- "Herschel HIFI Observations of O₂ toward Orion: Special Conditions for Shock Enhanced Emission," Chen, J. H., et al., ApJ, 793, 111 (2014)
- "First spectrally-resolved H₂ observations towards HH 54 . Low H₂O abundance in shocks,". Santangelo, G., et al., A&A, 569, L8 (2014)
- "Ubiquitous argonium (ArH⁺) in the diffuse interstellar medium: A molecular tracer of almost purely atomic gas," Schilke, P., **Neufeld, D. A.** et al., A&A, 566, A29 (2014)
- "Hydrogen Fluoride toward Luminous Nearby Galaxies: NGC 253 and NGC 4945," Monje, R. R., Lord, S., Falgarone, E., Lis, D. C., **Neufeld, D. A.**, Phillips, T.G., Güsten, R., ApJ, 785, 22 (2014)
- "The Water Abundance behind Interstellar Shocks: Results from Herschel/PACS and Spitzer/IRS Observations of H₂O, CO, and H₂," **Neufeld, D. A.**, et al., ApJ, 781, 102 (2014)

- "Herschel* Far-infrared Spectroscopy of the Galactic Center. Hot Molecular Gas: Shocks versus Radiation near Sgr A, " Goicoechea J. R., et al., ApJ, 769, L13, (2013)
- "Herschel/HIFI Observations of a New Interstellar Water Maser: The $5_{32} - 4_{41}$ Transition at 620.701 GHz, " **Neufeld D. A.**, Wu Y., Kraus A., Menten K. M., Tolls V., Melnick G. J., Nagy Z., ApJ, 769, 48, (2013)
- "BASECOL2012: A collisional database repository and web service within the Virtual Atomic and Molecular Data Centre (VAMDC), " Dubernet M.-L., et al., A&A, 553, A50, (2013)
- "Herschel/HIFI Search for H_2^{17}O and H_2^{18}O in IRC+10216: Constraints on Models for the Origin of Water Vapor, " **Neufeld D. A.**, et al., ApJ, 767, L3, (2013)
- "Hydrogen Chloride in Diffuse Interstellar Clouds along the Line of Sight to W31C (G10.6-0.4), " Monje R. R., Lis D. C., Roueff E., Gerin M., De Luca M., **Neufeld D. A.**, Godard B., Phillips T. G., ApJ, 767, 81, (2013)
- "The Abundance, Ortho/Para Ratio, and Deuteration of Water in the High-mass Star-forming Region NGC 6334 I, " Emprechtinger M., et al., ApJ, 765, 61, (2013)
- "Direct Determination of the HF/ H_2 Abundance Ratio in Interstellar Gas, " Indriolo N., **Neufeld D. A.**, Seifahrt A., Richter M. J., ApJ, 764, 188, (2013)
- "Herschel/PACS Spectroscopic Survey of Protostars in Orion: The Origin of Far-infrared CO Emission, " Manoj P., et al., ApJ, 763, 83, (2013)
- "Herschel/HIFI observations of [C II] and [^{13}C II] in photon-dominated regions, " Ossenkopf V., Rollig M., **Neufeld D. A.**, Pilleri P., Lis D. C., Fuente A., van der Tak F. F. S., Bergin E., A&A, 550, A57, (2013)
- "Herschel Observations Reveal Anomalous Molecular Abundances toward the Galactic Center, " Sonnentrucker P., Neufeld D. A., Gerin M., De Luca M., Indriolo N., Lis D. C., Goicoechea J. R., ApJ, 763, L19, (2013)
- "Water Absorption in Galactic Translucent Clouds: Conditions and History of the Gas Derived from Herschel/HIFI PRISMAS Observations, " Flagey N., et al., ApJ, 762, 11, (2013)
- "Mapping water in protostellar outflows with Herschel. PACS and HIFI observations of L1448-C, " Nisini B., et al., A&A, 549, A16, (2013)
- "Chemical Analysis of a Diffuse Cloud along a Line of Sight toward W51: Molecular Fraction and Cosmic-Ray Ionization Rate", Indriolo N., **Neufeld D. A.**, Gerin M., Geballe T. R., Black J. H., Menten K. M., Goicoechea J. R., ApJ, 758, 83 (2012)
- " H_2O line mapping at high spatial and spectral resolution. Herschel observations of the VLA 1623 outflow", Bjerkerli P., et al., A&A, 546, A29 (2012)
- "Hydrogen Fluoride in High-mass Star-forming Regions", Emprechtinger M., Monje R. R., van der Tak F. F. S., van der Wiel M. H. D., Lis D. C., **Neufeld D.**, Phillips T. G., Ceccarelli C., ApJ, 756, 136 (2012)
- "Herschel/HIFI observations of red supergiants and yellow hypergiants. I. Molecular inventory", Teyssier D., et al., A&A, 545, A99 (2012)

- "Hydride spectroscopy of the diffuse interstellar medium: new clues on the gas fraction in molecular form and cosmic ray ionization rate in relation to H_3^+ ", Gerin M., et al., Royal Society of London Philosophical Transactions Series A, 370, 5174, (2012)
- "The Chemistry of Interstellar OH^+ , H_2O^+ and H_3O^+ : Inferring the Cosmic-Ray Ionization Rates from Observations of Molecular Ions", Hollenbach D., Kaufman M. J., **Neufeld D.**, Wolfire M., Goicoechea J. R., ApJ, 754, 105 (2012)
- "Spitzer Observations of Shock-excited Hydrogen Deuteride in IC 443C, HH 7, and HH 54: Probing the Gas-phase Deuterium Abundance in the Dense Interstellar Medium", Yuan Y., **Neufeld D. A.**, Sonnentrucker P., Melnick G. J., Watson D. M., ApJ, 753, 126 (2012)
- "Herschel Search for O_2 toward the Orion Bar", Melnick G. J., et al., ApJ, 752, 26 (2012)
- "Herschel/HIFI Discovery of HCl^+ in the Interstellar Medium", De Luca M., et al., ApJ, 751, L37 (2012)
- "High-resolution absorption spectroscopy of the OH ground state line", Wiesemeyer H., Gusten R., Heyminck S., Jacobs K., Menten K. M., Neufeld D. A., Requena-Torres M. A., Stutzki J., A&A, 542, L7 (2012)
- "Discovery of interstellar mercapto radicals (SH) with the GREAT instrument on SOFIA", **Neufeld D. A.**, et al., A&A, 542, L6 (2012)
- "Collisional Excitation of Far-infrared Line Emissions from Warm Interstellar Carbon Monoxide (CO)", **Neufeld D. A.**, ApJ, 749, 125 (2012)
- "Comparative study of CH^+ and SH^+ absorption lines observed towards distant star-forming regions," Godard B., et al., A&A, 540, A87 (2012)
- "Herschel Observations of Interstellar Chloronium", **Neufeld D. A.**, et al., ApJ, 748, 37 (2012)
- "Herschel/HIFI observations of O-rich AGB stars: molecular inventory", Justtanont K., et al., A&A, 537, A144 (2012)
- "Herschel/HIFI observations of molecular emission in protoplanetary nebulae and young planetary nebulae", Bujarrabal V., et al., A&A, 537, A8 (2012)
- "Discovery of Hydrogen Fluoride in the Cloverleaf Quasar at $z = 2.56$ ", Monje, R. R., Phillips, T. G., Peng, R., Lis, D. C., **Neufeld, D. A.**, Emprechtinger, M., ApJ, 742, L21 (2011)
- "Detection of the Water Reservoir in a Forming Planetary System", Hogerheijde, M. R., et al., Sci, 334, 338 (2011)
- "Discovery of Water Vapor in the High-redshift Quasar APM 08279+5255 at $z = 3.91$ ", Lis, D. C., **Neufeld, D. A.**, Phillips, T. G., Gerin, M., Neri, R., ApJ, 738, L6 (2011)
- "Spitzer Spectral Line Mapping of Protostellar Outflows. III. H_2 Emission in L1448, BHR71, and NGC2071", Giannini, T., Nisini, B., **Neufeld, D.**, Yuan, Y., Antonucci, S., Gusdorf, A., ApJ, 738, 80 (2011)
- "HIFI detection of hydrogen fluoride in the carbon star envelope IRC +10216", Agundez, M., Cernicharo, J., Waters, L. B. F. M., Decin, L., Encrenaz, P., **Neufeld, D.**, Teyssier, D., Daniel, F., A&A, 533, L6 (2011)

- "Herschel Measurements of Molecular Oxygen in Orion, " Goldsmith, P. F., et al., ApJ, 737, 96 (2011)
- "Herschel/HIFI Observations of Hydrogen Fluoride Toward Sagittarius B2(M), " Monje, R. R., et al., ApJ, 734, L23 (2011)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): Methanol as a probe of physical conditions in Orion KL, " Wang, S., et al., A&A, 527, A95 (2011)
- "Water in Star-forming Regions with the Herschel Space Observatory (WISH). I. Overview of Key Program and First Results, " van Dishoeck, E. F., et al., PASP, 123, 138 (2011)
- "The Widespread Occurrence of Water Vapor in the Circumstellar Envelopes of Carbon-rich Asymptotic Giant Branch Stars: First Results from a Survey with Herschel/HIFI, " **Neufeld, D. A.**, et al., ApJ, 727, L29 (2011)
- "Herschel/HIFI Observations of IRC+10216: Water Vapor in the Inner Envelope of a Carbon-rich Asymptotic Giant Branch Star, " **Neufeld, D. A.**, et al., ApJ, 727, L28 (2011)
- "Distribution of Water Vapor in Molecular Clouds, " Melnick, G. J., Tolls, V., Snell, R. L., Bergin, E. A., Hollenbach, D. J., Kaufman, M. J., Li, D., **Neufeld, D. A.**, ApJ, 727, 13 (2011)
- "Spitzer Observations of Supernova Remnants. II. Physical Conditions and Comparison with HH7 and HH54, " Yuan, Y., **Neufeld, D. A.**, ApJ, 726, 76 (2011)
- "Spitzer Spectral Line Mapping of Protostellar Outflows. II. H₂ Emission in L1157, " Nisini, B., Giannini, T., **Neufeld, D. A.**, Yuan, Y., Antonucci, S., Bergin, E. A., Melnick, G. J., ApJ, 724, 69 (2010)
- "Nitrogen hydrides in the cold envelope of IRAS 16293-2422, " Hily-Blant, P., et al., A&A, 521, L52 (2010)
- "Detection of OH⁺ and H₂O⁺ towards Orion KL, " Gupta, H., et al., A&A, 521, L47 (2010)
- "Nitrogen hydrides in interstellar gas. Herschel/HIFI observations towards G10.6-0.4 (W31C), " Persson, C. M., et al., A&A, 521, L45 (2010)
- "Herschel/HIFI detections of hydrides towards AFGL 2591. Envelope emission versus tenuous cloud absorption, " Bruderer, S., et al., A&A, 521, L44 (2010)
- "Herschel/HIFI observations of spectrally resolved methylidyne signatures toward the high-mass star-forming core NGC 6334I, " van der Wiel, M. H. D., et al., A&A, 521, L43 (2010)
- "First detection of ND in the solar-mass protostar IRAS16293-2422, " Bacmann, A., et al., A&A, 521, L42 (2010)
- "Herschel/HIFI spectroscopy of the intermediate mass protostar NGC 7129 FIRS 2, " Johnstone, D., et al., A&A, 521, L41 (2010)
- "Herschel/HIFI observations of high-J CO lines in the NGC 1333 low-mass star-forming region, " Yildiz, U. A., et al., A&A, 521, L40 (2010)
- "Herschel observations of deuterated water towards Sgr B2(M), " Comito, C., et al., A&A, 521, L38 (2010)

- "Herschel observations of the hydroxyl radical (OH) in young stellar objects, " Wampfler, S. F., et al., A&A, 521, L36 (2010)
- "Hydrides in young stellar objects: Radiation tracers in a protostar-disk-outflow system, " Benz, A. O., et al., A&A, 521, L35 (2010)
- "Sensitive limits on the abundance of cold water vapor in the DM Tauri protoplanetary disk, " Bergin, E. A., et al., A&A, 521, L33 (2010)
- "Water abundances in high-mass protostellar envelopes: Herschel observations with HIFI, " Marseille, M. G., et al., A&A, 521, L32 (2010)
- "Ortho-to-para ratio of interstellar heavy water, " Vastel, C., et al., A&A, 521, L31 (2010)
- "Water in low-mass star-forming regions with Herschel . HIFI spectroscopy of NGC 1333, " Kristensen, L. E., et al., A&A, 521, L30 (2010)
- "Water vapor toward starless cores: The Herschel view, " Caselli, P., et al., A&A, 521, L29 (2010)
- "The distribution of water in the high-mass star-forming region NGC 6334 I, " Emprechtinger, M., et al., A&A, 521, L28 (2010)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): Observations of H₂O and its isotopologues towards Orion KL, " Melnick, G. J., et al., A&A, 521, L27 (2010)
- "Herschel/HIFI measurements of the ortho/para ratio in water towards Sagittarius B2(M) and W31C, " Lis, D. C., et al., A&A, 521, L26 (2010)
- "The origin of the [C II] emission in the S140 photon-dominated regions. New insights from HIFI, " Dedes, C., et al., A&A, 521, L24 (2010)
- "Herschel observations in the ultracompact HII region Mon R2. Water in dense photon-dominated regions (PDRs), " Fuente, A., et al., A&A, 521, L23 (2010)
- "Herschel spectral surveys of star-forming regions. Overview of the 555-636 GHz range, " Ceccarelli, C., et al., A&A, 521, L22 (2010)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): The Terahertz spectrum of Orion KL seen at high spectral resolution, " Crockett, N. R., et al., A&A, 521, L21 (2010)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): The present and future of spectral surveys with Herschel/HIFI, " Bergin, E. A., et al., A&A, 521, L20 (2010)
- "Interstellar CH absorption in the diffuse interstellar medium along the sight-lines to G10.6-0.4 (W31C), W49N, and W51, " Gerin, M., et al., A&A, 521, L16 (2010)
- "CH+(1-0) and 13CH+(1-0) absorption lines in the direction of massive star-forming regions, " Falgarone, E., et al., A&A, 521, L15 (2010)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): detecting spiral arm clouds by CH absorption lines, " Qin, S.-L., et al., A&A, 521, L14 (2010)

- "Detection of hydrogen fluoride absorption in diffuse molecular clouds with Herschel/HIFI: an ubiquitous tracer of molecular gas, " Sonnentrucker, P., et al., A&A, 521, L12 (2010)
- "Herschel observations of ortho- and para-oxidaniumyl (H₂O⁺) in spiral arm clouds toward Sagittarius B2(M), " Schilke, P., et al., A&A, 521, L11 (2010)
- "Herschel/HIFI observations of interstellar OH⁺ and H₂O⁺ towards W49N: a probe of diffuse clouds with a small molecular fraction, " Neufeld, D. A., et al., A&A, 521, L10 (2010)
- "Herschel/HIFI discovery of interstellar chloronium (H₂Cl⁺), " Lis, D. C., et al., A&A, 521, L9 (2010)
- "Herschel/HIFI deepens the circumstellar NH₃ enigma, " Menten, K. M., et al., A&A, 521, L7 (2010)
- "A HIFI preview of warm molecular gas around χ Cygni: first detection of H₂O emission toward an S-type AGB star, " Justtanont, K., et al., A&A, 521, L6 (2010)
- "Discovery of water vapour in the carbon star V Cygni from observations with Herschel/HIFI, " **Neufeld, D. A.**, et al., A&A, 521, L5 (2010)
- "Water content and wind acceleration in the envelope around the oxygen-rich AGB star IK Tauri as seen by Herschel/HIFI, " Decin, L., et al., A&A, 521, L4 (2010)
- "Herschel/HIFI observations of high-J CO transitions in the protoplanetary nebula CRL 618, " Bujarrabal, V., et al., A&A, 521, L3 (2010)
- "Herschel-PACS imaging of protostars in the HH 1-2 outflow complex, " Fischer, W. J., et al., A&A, 518, L122 (2010)
- "Origin of the hot gas in low-mass protostars. Herschel-PACS spectroscopy of HH 46, " van Kempen, T. A., et al., A&A, 518, L121 (2010)
- "Water cooling of shocks in protostellar outflows. Herschel-PACS map of L1157, " Nisini, B., et al., A&A, 518, L120 (2010)
- "Strong CH⁺ J = 1-0 emission and absorption in DR21, " Falgarone, E., et al., A&A, 518, L118 (2010)
- "The CHESS spectral survey of star forming regions: Peering into the protostellar shock L1157-B1. II. Shock dynamics, " Lefloch, B., et al., A&A, 518, L113 (2010)
- "The CHESS spectral survey of star forming regions: Peering into the protostellar shock L1157-B1. I. Shock chemical complexity, " Codella, C., et al., A&A, 518, L112 (2010)
- "Detection of interstellar oxidaniumyl: Abundant H₂O⁺ towards the star-forming regions DR21, Sgr B2, and NGC6334, " Ossenkopf, V., et al., A&A, 518, L111 (2010)
- "Interstellar OH⁺, H₂O⁺ and H₃O⁺ along the sight-line to G10.6-0.4, " Gerin, M., et al., A&A, 518, L110 (2010)
- "Herschel observations of EXtra-Ordinary Sources (HEXOS): Detection of hydrogen fluoride in absorption towards Orion KL, " Phillips, T. G., et al., A&A, 518, L109 (2010)
- "Strong absorption by interstellar hydrogen fluoride: Herschel/HIFI observations of the sight-line to G10.6-0.4 (W31C), " **Neufeld, D. A.**, et al., A&A, 518, L108 (2010)

- "Water abundance variations around high-mass protostars: HIFI observations of the DR21 region, " van der Tak, F. F. S., et al., A&A, 518, L107 (2010)
- "Hier ist wahrhaftig ein Loch im Himmel. The NGC 1999 dark globule is not a globule, " Stanke, T., et al., A&A, 518, L94 (2010)
- "HIFI observations of warm gas in DR21: Shock versus radiative heating, " Ossenkopf, V., et al., A&A, 518, L79 (2010)
- "Rate Coefficients for the Collisional Excitation of Molecules: Estimates from an Artificial Neural Network, " **Neufeld, D. A.**, ApJ, 708, 635 (2010)
- "The Chemistry of Interstellar Molecules Containing the Halogen Elements, " **Neufeld, D. A.**, Wolfire, M. G., ApJ, 706, 1594 (2009)
- "Spitzer Spectral Line Mapping of Protostellar Outflows. I. Basic Data and Outflow Energetics, " **Neufeld, D. A.**, et al., ApJ, 706, 170 (2009)
- "Spitzer Mapping of Molecular Hydrogen Pure Rotational Lines in NGC 1333: A Detailed Study of Feedback in Star Formation, " Maret, S., et al., ApJ, 698, 1244 (2009)
- "Detection of Extended Hot Water in the Outflow from NGC 2071, " Melnick, G. J., Tolls, V., **Neufeld, D. A.**, Yuan, Y., Sonnentrucker, P., Watson, D. M., Bergin, E. A., Kaufman, M. J., ApJ, 683, 876 (2008)
- "Mapping Warm Molecular Hydrogen with the Spitzer Infrared Array Camera (IRAC), " **Neufeld, D. A.**, Yuan, Y., ApJ, 678, 974 (2008)
- "SWAS Observations of Water in Molecular Outflows, " Franklin, J., Snell, R. L., Kaufman, M. J., Melnick, G. J., **Neufeld, D. A.**, Hollenbach, D. J., Bergin, E. A., ApJ, 674, 1015 (2008)
- "Fully Sampled Maps of Ices and Silicates in Front of Cepheus A East with the Spitzer Space Telescope, " Sonnentrucker, P., **Neufeld, D. A.**, Gerakines, P. A., Bergin, E. A., Melnick, G. J., Forrest, W. J., Pipher, J. L., Whittet, D. C. B., ApJ, 672, 361 (2008)
- "Detection of Acetylene toward Cepheus A East with Spitzer, " Sonnentrucker, P., Gonzalez-Alfonso, E., **Neufeld, D. A.**, ApJ, 671, L37 (2007)
- "Water Vapor Emission from IRC +10216 and Other Carbon-Rich Stars: Model Predictions and Prospects for Multitransition Observations, " Gonzalez-Alfonso, E., **Neufeld, D. A.**, Melnick, G. J., ApJ, 669, 412 (2007)
- "Spitzer Spectral Line Mapping of Supernova Remnants. I. Basic Data and Principal Component Analysis, " **Neufeld, D. A.**, Hollenbach, D. J., Kaufman, M. J., Snell, R. L., Melnick, G. J., Bergin, E. A., Sonnentrucker, P., ApJ, 664, 890 (2007)
- "The Abundance of Carbon Dioxide Ice in the Quiescent Intracloud Medium, " Whittet, D. C. B., Shenoy, S. S., Bergin, E. A., Chiar, J. E., Gerakines, P. A., Gibb, E. L., Melnick, G. J., **Neufeld, D. A.**, ApJ, 655, 332 (2007)
- "Submillimeter Wave Astronomy Satellite observations of Comet 9P/Tempel 1 and Deep Impact, " Bensch, F., Melnick, G. J., **Neufeld, D. A.**, Harwit, M., Snell, R. L., Patten, B. M., Tolls, V., Icar, 184, 602 (2006)

- "Gas-Phase CO₂ Emission toward Cepheus A East: The Result of Shock Activity?", Sonnentrucker, P., Gonzalez-Alfonso, E., **Neufeld, D. A.**, Bergin, E. A., Melnick, G. J., Forrest, W. J., Pipher, J. L., Watson, D. M., *ApJ*, 650, L71 (2006)
- "Spitzer Observations of HH 54 and HH 7-11: Mapping the H₂ Ortho-to-Para Ratio in Shocked Molecular Gas, " **Neufeld, D. A.**, et al., *ApJ*, 649, 816 (2006)
- "Spitzer Observations of Hydrogen Deuteride, " **Neufeld, D. A.**, et al., *ApJ*, 647, L33 (2006)
- "Discovery of interstellar CF⁺, " **Neufeld, D. A.**, et al., *A&A*, 454, L37 (2006)
- "Deep Impact: Observations from a Worldwide Earth-Based Campaign, " Meech, K. J., et al., *Sci*, 310, 265 (2005)
- "The Chemistry of Fluorine-bearing Molecules in Diffuse and Dense Interstellar Gas Clouds, " **Neufeld, D. A.**, Wolfire, M. G., Schilke, P., *ApJ*, 628, 260 (2005)
- "Spitzer Observations of CO₂ Ice toward Field Stars in the Taurus Molecular Cloud, " Bergin, E. A., Melnick, G. J., Gerakines, P. A., **Neufeld, D. A.**, Whittet, D. C. B., *ApJ*, 627, L33 (2005)
- "Detection of Water in the Shocked Gas Associated with IC 443: Constraints on Shock Models, " Snell, R. L., Hollenbach, D., Howe, J. E., **Neufeld, D. A.**, Kaufman, M. J., Melnick, G. J., Bergin, E. A., Wang, Z., *ApJ*, 620, 758 (2005)
- "Detection of Formaldehyde toward the Extreme Carbon Star IRC +10216, " Ford, K. E. S., **Neufeld, D. A.**, Schilke, P., Melnick, G. J., *ApJ*, 614, 990 (2004)
- "Submillimeter Wave Astronomy Satellite Performance on the ground and in orbit, " Tolls, V., et al., *ApJS*, 152, 137 (2004)
- "Water Absorption from Line-of-Sight Clouds toward W49A, " Plume, R., et al., *ApJ*, 605, 247 (2004)
- "Submillimeter Wave Astronomy Satellite Mapping Observations of Water Vapor around Sagittarius B2, " **Neufeld, D. A.**, Bergin, E. A., Melnick, G. J., Goldsmith, P. F., *ApJ*, 590, 882 (2003)
- "Detection of OH toward the Extreme Carbon Star IRC +10216, " Ford, K. E. S., **Neufeld, D. A.**, Goldsmith, P. F., Melnick, G. J., *ApJ*, 589, 430 (2003)
- "Submillimeter Wave Astronomy Satellite and Arecibo Observations of H₂O and OH in a Diffuse Cloud along the Line of Sight to W51, " **Neufeld, D. A.**, Kaufman, M. J., Goldsmith, P. F., Hollenbach, D. J., Plume, R., *ApJ*, 580, 278 (2002)
- "Tentative Detection of Molecular Oxygen in the ρ Ophiuchi Cloud, " Goldsmith, P. F., Li, D., Bergin, E. A., Melnick, G. J., Tolls, V., Howe, J. E., Snell, R. L., **Neufeld, D. A.**, *ApJ*, 576, 814 (2002)
- "Post-perihelion SWAS Observations of Water Vapor in the Coma of Comet C/1999 H1 (Lee), " Chiu, K., **Neufeld, D. A.**, Bergin, E. A., Melnick, G. J., Patten, B. M., Wang, Z., Bockelee-Morvan, D., *Icar*, 154, 345 (2001)
- "Water Vapor in Carbon-rich Asymptotic Giant Branch Stars from the Vaporization of Icy Orbiting Bodies, " Saavik Ford, K. E., **Neufeld, D. A.**, *ApJ*, 557, L113 (2001)

- "Discovery of water vapour around IRC+10216 as evidence for comets orbiting another star, " Melnick, G. J., **Neufeld, D. A.**, Ford, K. E. S., Hollenbach, D. J., Ashby, M. L. N., Nature, 412, 160 (2001)
- "Response of Circumnuclear Water Masers to Luminosity Changes in an Active Galactic Nucleus, "
Neufeld, D. A., ApJ, 542, L99 (2000)
- "Submillimeter Wave Astronomy Satellite Observations of Water Vapor toward Comet C/1999 H1 (Lee), "
Neufeld, D. A., et al., ApJ, 539, L151 (2000)
- "Submillimeter Wave Astronomy Satellite Observations of Jupiter and Saturn: Detection of 557 GHz Water Emission from the Upper Atmosphere, " Bergin, E. A., et al., ApJ, 539, L147 (2000)
- "Submillimeter Wave Astronomy Satellite Observations of the Martian Atmosphere: Temperature and Vertical Distribution of Water Vapor, " Gurwell, M. A., et al., ApJ, 539, L143 (2000)
- "Extended [C I] and 13CO (5-4) Emission in M17SW, " Howe, J. E., et al., ApJ, 539, L137 (2000)
- "Large-scale 13CO J=5-4 and [C I] Mapping of Orion A, " Plume, R., et al., ApJ, 539, L133 (2000)
- "Implications of Submillimeter Wave Astronomy Satellite Observations for Interstellar Chemistry and Star Formation, " Bergin, E. A., et al., ApJ, 539, L129 (2000)
- "O₂ in Interstellar Molecular Clouds, " Goldsmith, P. F., et al., ApJ, 539, L123 (2000)
- "Water Abundance and Velocity Structure in S140, ρ Oph A, and B335, " Ashby, M. L. N., et al., ApJ, 539, L119 (2000)
- "An Analysis of Water Line Profiles in Star Formation Regions Observed by the Submillimeter Wave Astronomy Satellite, " Ashby, M. L. N., et al., ApJ, 539, L115 (2000)
- "Observations of Absorption by Water Vapor toward Sagittarius B2, " **Neufeld, D. A.**, et al., ApJ, 539, L111 (2000)
- "Observations of Interstellar Water Vapor in Outflow Regions, " **Neufeld, D. A.**, et al., ApJ, 539, L107 (2000)
- "Water Abundance in Molecular Cloud Cores, " Snell, R. L., et al., ApJ, 539, L101 (2000)
- "The Distribution of Water Emission in M17SW, " Snell, R. L., et al., ApJ, 539, L97 (2000)
- "Submillimeter Wave Astronomy Satellite Observations of Extended Water Emission in Orion, " Snell, R. L., et al., ApJ, 539, L93 (2000)
- "Observations of Water Vapor toward Orion BN/KL, " Melnick, G. J., et al., ApJ, 539, L87 (2000)
- "The Submillimeter Wave Astronomy Satellite: Science Objectives and Instrument Description, " Melnick, G. J., et al., ApJ, 539, L77 (2000)
- "Infrared Space Observatory Observations of Far-Infrared Rotational Emission Lines of Water Vapor toward the Supergiant Star VY Canis Majoris, " **Neufeld, D. A.**, Feuchtgruber, H., Harwit, M., Melnick, G. J., ApJ, 517, L147 (1999)

- "The Ratio of Ortho- to Para-H₂ in Photodissociation Regions, " Sternberg, A., **Neufeld, D. A.**, ApJ, 516, 371 (1999)
- "Formation of Interstellar Ices behind Shock Waves, " Bergin, E. A., **Neufeld, D. A.**, Melnick, G. J., ApJ, 510, L145 (1999)
- "Infrared Space Observatory Observations of Molecular Hydrogen in HH 54: Measurement of a Nonequilibrium Ratio of Ortho- to Para-H₂, " **Neufeld, D. A.**, Melnick, G. J., Harwit, M., ApJ, 506, L75 (1998)
- "Search for Interstellar Water in the Translucent Molecular Cloud toward HD 154368, " Spaans, M., **Neufeld, D.**, Lepp, S., Melnick, G. J., Stauffer, J., ApJ, 503, 780 (1998)
- "The Postshock Chemical Lifetimes of Outflow Tracers and a Possible New Mechanism to Produce Water Ice Mantles, " Bergin, E. A., **Neufeld, D. A.**, Melnick, G. J., ApJ, 499, 777 (1998)
- "Thermal Water Vapor Emission from Shocked Regions in Orion, " Harwit, M., **Neufeld, D. A.**, Melnick, G. J., Kaufman, M. J., ApJ, 497, L105 (1998)
- "Models for Dense Molecular Cloud Cores, " Doty, S. D., **Neufeld, D. A.**, ApJ, 489, 122 (1997)
- "Discovery of Interstellar Hydrogen Fluoride 1, " **Neufeld, D. A.**, Zmuidzinas, J., Schilke, P., Phillips, T. G., ApJ, 488, L141 (1997)
- "The Wardle Instability in Interstellar Shocks. II. Gas Temperature and Line Emission, " **Neufeld, D. A.**, Stone, J. M., ApJ, 487, 283 (1997)
- "Molecular Hydrogen in Diffuse Interstellar Clouds of Arbitrary Three-dimensional Geometry, " Spaans, M., **Neufeld, D. A.**, ApJ, 484, 785 (1997)
- "Red Fluorescent Line Emission from Hydrogen Molecules in Diffuse Molecular Clouds, " **Neufeld, D. A.**, Spaans, M., ApJ, 473, 894 (1996)
- "Free-Free Emission from Accretion Shocks, " **Neufeld, D. A.**, Hollenbach, D. J., ApJ, 471, L45 (1996)
- "Detection of far-infrared rotational lines of water vapour toward W Hydrae., " **Neufeld, D. A.**, Chen, W., Melnick, G. J., de Graauw, T., Feuchtgruber, H., Haser, L., Lutz, D., Harwit, M., A&A, 315, L237 (1996)
- "Far-Infrared Water Emission from Magnetohydrodynamic Shock Waves, " Kaufman, M. J., **Neufeld, D. A.**, ApJ, 456, 611 (1996)
- "Water Maser Emission from Magnetohydrodynamic Shock Waves, " Kaufman, M. J., **Neufeld, D. A.**, ApJ, 456, 250 (1996)
- "The submillimeter wave astronomy satellite: mission science objectives, " Melnick, G. J., et al., AdSpR, 18, 163 (1996)
- "Far-Infrared Water Line Emissions from Circumstellar Outflows, " Chen, W., **Neufeld, D. A.**, ApJ, 453, L99 (1995)
- "Thermal Balance in Dense Molecular Clouds: Radiative Cooling Rates and Emission-Line Luminosities, " **Neufeld, D. A.**, Lepp, S., Melnick, G. J., ApJS, 100, 132 (1995)

- "The Mass Accretion Rate through the Masing Molecular Disk in the Active Galaxy NGC 4258, " **Neufeld, D. A.**, Maloney, P. R., ApJ, 447, L17 (1995)
- "Water maser emission from X-ray-heated circumnuclear gas in active galaxies, " **Neufeld, D. A.**, Maloney, P. R., Conger, S., ApJ, 436, L127 (1994)
- "Ly(alpha) emission and absorption features in the spectra of galaxies, " Chen, W. L., **Neufeld, D. A.**, ApJ, 432, 567 (1994)
- "Excitation of interstellar hydrogen chloride, " **Neufeld, D. A.**, Green, S., ApJ, 432, 158 (1994)
- "Dense molecular shocks and accretion onto protostellar disks, " **Neufeld, D. A.**, Hollenbach, D. J., ApJ, 428, 170 (1994)
- "Radiative Cooling of Warm Molecular Gas, " **Neufeld, D. A.**, Kaufman, M. J., ApJ, 418, 263 (1993)
- "Problems with the standard theory of three-dimensional masers, " **Neufeld, D. A.**, ApJ, 393, L37 (1992): Erratum, " ApJ, 413, L145 (1993)
- "The escape of Lyman-alpha radiation from a multiphase interstellar medium, " **Neufeld, D. A.**, ApJ, 370, L85 (1991)
- "Excitation of millimeter and submillimeter water masers, " **Neufeld, D. A.**, Melnick, G. J., ApJ, 368, 215 (1991) : Erratum, **Neufeld, D. A.**, Melnick, G. J., ApJ, 374, 784 (1991)
- "A new submillimeter water maser transition at 325 GHz, " Menten, K. M., Melnick, G. J., Phillips, T. G., **Neufeld, D. A.**, ApJ, 363, L27 (1990)
- "Interpretation of the newly discovered submillimeter water maser, " **Neufeld, D. A.**, Melnick, G. J., ApJ, 352, L9 (1990)
- "The transfer of resonance-line radiation in static astrophysical media, " **Neufeld, D. A.**, ApJ, 350, 216 (1990)
- "Fast molecular shocks. II - Emission from fast dissociative shocks, " **Neufeld, D. A.**, Dalgarno, A., ApJ, 344, 251 (1989)
- "Electron-impact excitation of molecular ions, " **Neufeld, D. A.**, Dalgarno, A., PhRvA, 40, 633 (1989)
- "Fast molecular shocks. I - Reformation of molecules behind a dissociative shock, " **Neufeld, D. A.**, Dalgarno, A., ApJ, 340, 869 (1989)
- "Fermi acceleration of Lyman-alpha photons by shocks, " **Neufeld, D. A.**, McKee, C.F., ApJ, 331, L87 (1988)
- "H2O line emission from shocked gas, " **Neufeld, D. A.**, Melnick, G. J., ApJ, 322, 266 (1987)
- "Charge transfer in collisions of doubly charged ions of iron and nickel with hydrogen atoms, " **Neufeld, D. A.**, Dalgarno, A., PhRvA, 35, 3142 (1987)
- "Upper limit on any intermediate-range force associated with baryon number, " **Neufeld, D. A.**, PhRvL, 56, 2344 (1986)

Selected other publications:

- "Molecular Astrophysics with the Spitzer Space Telescope: Studies of Interstellar Shocks," Neufeld, D. A., in Proceedings of the Dalgarno Celebratory Symposium, eds. J. F. Babb, K. Kirby, H. Sadeghpour (London: Imperial College Press), p 160. (2010)
- "Benchmark problems for water radiative transfer", van der Tak et al., in Proceedings of the dusty and molecular universe: a prelude to Herschel and ALMA, 27-29 October 2004, Paris, France. Ed. by A. Wilson. ESA SP-577, Noordwijk, Netherlands: ESA Publications Division, ISBN 92-9092-855-7, p. 431 (2005)
- "Comet C/1999 T1 (McNaught-Hartley)," Bergin, E. A., Neufeld, D. A., Kleiner, S. C., Wang, Z., Melnick, G. J., IAU Circ, 7596 (2001)
- "Shocks and Outflows in Regions of Star Formation," Neufeld, D., ASP Conference series, 235, 59 (2001)
- "Submillimeter and far-infrared experiment (SAFIRE): a PI class instrument for SOFIA", Shafer, R. A., Moseley, S.H., Ade, P. A., Benford, D. J., Bjoraker, G., Dwek, E., Neufeld, D. A., Pajot, F., Phillips, T. G., & Stacey, G. J., Proc. SPIE, 4014, 98 (2000)
- "The Submillimeter Probe of the Evolution of Cosmic Structure (SPECS)," Leisawitz, D. , Mather, J. C., Moseley, S. H. , Jr., Dwek, E., Feinberg, L., Harwit, M. , Mundy, L. G., Mushotzky, R. F., Neufeld, D., Spergel, D. & Wright, E. L., in *The Physics and Chemistry of the Interstellar Medium, Proceedings of the 3rd Cologne-Zermatt Symposium, held in Zermatt, September 22-25, 1998*, ed. V. Ossenkopf, J. Stutzki, & G. Winnewisser, GCA-Verlag Herdecke, p. 454 (1999)
- "Comet C/1999 H1 (Lee)," Bergin, E. A., Neufeld, D. A., Stauffer, J. R., Kleiner, S. C., Wang, Z., Plume, R. & Melnick, G. J., IAU Circ., 7183, 2 (1999)
- "Water Molecules in the Circumnuclear Regions of Active Galaxies," Neufeld, D. A., in *The Molecular Astrophysics of Stars and Galaxies*, ed. T. Hartquist & D. Williams, Oxford, p. 507 (1998)
- "Water megamasers as a probe of a circumnuclear accretion disk in an active galaxy," Neufeld, D. A., in *Proceedings of IAU Symposium 178, Molecules in Astrophysics: Probes and Processes*, ed. E. F. van Dishoeck, Kluwer, p. 505 (1996)
- "Detection of thermal water vapor emission from W Hydrae," Neufeld, D. A., Chen, W., Melnick, G. J., De Graauw, T., Feuchtgruber, H., Haser, L., Lutz, D., & Harwit, in *Proceedings of IAU Symposium 178, Molecules in Astrophysics: Probes and Processes*, ed. E. F. van Dishoeck, Kluwer, p. 385 (1996)
- "Infrared spectra of protostellar collapse," Hollenbach, D. J., Ceccarelli, C. , Neufeld, D. A. & Tielens, A. G. G. M., in *Proceedings of the Airborne Astronomy Symposium on the Galactic Ecosystem: From Gas to Stars to Dust*, ed. M.R. Haas, J.A. Davidson, and E.F. Erickson, ASP Conf. Ser. 73, p. 243-250 (1996)
- "Theory of fluctuations in unsaturated masers," Kaufman, M. J. & Neufeld, D. A., in *Astrophysical Masers: Proceedings of a Conference held in Arlington, Virginia, USA, 9-11 March 1992*, ed. A. Clegg and G. Nedoluha, Springer, p. 287 (1993)
- "Observations of Water and O₂ in the Interstellar Gas," Neufeld, D. A., in *IAU Symposium No. 150: Astrochemistry of Cosmic Phenomena*, ed. P. D. Singh, Kluwer, p. 335 (1992)

"Dissociative Shocks," Neufeld, D.A., in *Molecular Astrophysics*, ed. T. Hartquist, Cambridge University Press, p. 374 (1990)

Volumes edited:

Astronomical Society of the Pacific Conference Series volume 323, "STAR FORMATION IN THE INTERSTELLAR MEDIUM: In Honor of David Hollenbach, Chris McKee and Frank Shu," eds. D. Johnstone, F. C. Adams, D. N. C. Lin, D. A. Neufeld and E. C. Ostriker, ISBN: 1-58381-185-0 (ASP: San Francisco, 2004)