

CURRICULUM VITAE

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Education:

1979	Ph.D.(Astronomy)	University of Texas
1975	M.A.(Astronomy)	University of Texas
1973	B.A.(Physics) B.A.(Astronomy)	University of Kansas

Professional Employment History:

2000-09	University of Massachusetts	Head, Department of Astronomy
1999-10	University of Massachusetts	Chair, Five College Astronomy Department
1999-00	University of Massachusetts	Acting Head, Department of Astronomy
1992-	University of Massachusetts	Professor
1987-92	University of Massachusetts	Associate Professor
1984-87	University of Massachusetts	Assistant Professor
1982-84	University of Massachusetts	Senior Postdoctoral Research Associate
1979-82	University of Massachusetts	Postdoctoral Research Associate
1976-79	University Texas Student Union	Instructor Informal Courses
1973-79	University of Texas	Research and Teaching Assistant
1972-73	University of Kansas	Teaching Assistant
1972	U.S. Naval Observatory	Summer Science Assistant

Research Specialization:

Physics and Chemistry of Interstellar Molecular Clouds, Star Formation, and Radio Astronomy Techniques

Ph.D. Students Supervised:

Mark H. Heyer (1986)
Gerald Moriarty-Schieven (1988)
Youngung Lee (1992)
John Carpenter (1994)
Edward Bergin (1995)

Books Authored:

Fundamentals of Radio Astronomy: Observational Methods, by Jonathan Marr, Ronald Snell and Stanley Kurtz, Taylor and Francis Publishing, CRC Press (2015).

Fundamentals of Radio Astronomy: Astrophysics, by Ronald Snell, Stanley Kurtz, and Jonathan Marr, submitted, Taylor and Francis Publishing, CRC Press (2019).

Books Edited:

Molecular Clouds in the Milky Way and External Galaxies, Robert Dickman, Ronald Snell, and Judith Young,, Lecture Notes in Physics, vol. 315, Springer-Verlag (1988)

Refereed Publications:

1. "The Infrared Excess of Cool Giant Stars: A Chromospheric Contribution," Lambert, D.L. and Snell, R.L., MNRAS, 172, 277 (1975).
2. "The Evolution of Low Temperature White Dwarfs to Thermonuclear Runaway," Duncan, M.J., Mazurek, T.J., Snell, R.L., and Wheeler, J.C., Astroph. Lett., 17, 19 (1976).
3. "A Solar Model with a Rotating Magnetized Core," Snell, R.L, Wheeler, J.C., and Wilson, J.R., Astroph. Lett., 17, 157 (1976).
4. "The $^{12}\text{C}/^{13}\text{C}$ Ratio in Stellar Atmospheres. VI. Five Luminous Cool Stars," Hinkle, K.H., Lambert, D.L., and Snell, R.L., Ap.J., 210, 684 (1976).
5. "Self-Reversed CO Profiles in Collapsing Molecular Clouds," Snell, R.L. and Loren, R.B., Ap.J., 211, 122 (1977).
6. "Emission from Highly Excited Rotational States of HC₃N in Dense Clouds," Morris, M., Snell, R.L. and Vanden Bout, P.A., Ap.J., 216, 738 (1977).
7. "Detection of Interstellar DNC," Snell, R.L. and Wootten, H.A., Ap.J.(Lett.), 216, L111 (1977).
8. "Observations of DCO⁺: The Electron Abundance in Dark Clouds," Guelin, M., Langer, W.D., Snell, R.L. and Wootten, H.A., Ap.J., 217, L165 (1977).
9. "Observations of Interstellar Lithium Toward ξ Per and ϵ Aur," Vanden Bout, P.A., Snell, R.L., Vogt, S.S., and Tull, R.G., Ap.J., 221, 598 (1978).
10. "New Diffuse Interstellar Bands in the Wavelength Region 6500 A - 8900 A," Sanner, F., Snell, R.L., and Vanden Bout, P.A., Ap.J., 226, 460 (1978).
11. "Molecular Abundance Variations in Interstellar Clouds," Wootten, H.A., Evans, N.J. II, Snell, R.L., and Vanden Bout, P.A., Ap.J. (Lett.), 225, L143 (1978).
12. "A Study of Interstellar Dark Clouds", Snell, R.L., Ph.D. thesis submitted to the University of Texas (1979).

13. "Observations of Interstellar HNC, DNC, and HN^{13}C : Temperature Effects on Deuterium Fractionation," Snell, R.L. and Wootten, H.A., *Ap.J.*, 228, 748 (1979).
14. "The Determination of Electron Abundances in Interstellar Clouds," Wootten, H.A., Snell, R.L., and Glassgold, A., *Ap.J.*, 234, 876 (1979).
15. "Rotational Fine Structure Lines of Interstellar C_2 Toward ξ Persei," Chaffee, F.H., Lutz, B.L., Black, J.H., Vanden Bout, P.A. and Snell, R.L., *Ap.J.*, 236, 474 (1980).
16. "Measurements of the Interstellar $^{12}\text{CH}^+ / ^{13}\text{CH}^+$ Abundance," Vanden Bout, P.A. and Snell, R.L., *Ap.J.*, 236, 460 (1980).
17. "Detection of C_2H in Cold Dark Clouds," Wootten, H.A., Bozyan, E.P., Garrett, D.B., Loren, R.B., and Snell, R.L., *Ap.J.*, 239, 844 (1980).
18. "Observations of CO in L1551: Evidence for Stellar-Wind Driven Shocks," Snell, R.L., Loren, R.B., and Plambeck, *Ap.J. (Lett.)*, 239, L17 (1980).
19. "Detection of Deuterated Cyanoacetylene in the Interstellar Cloud TMC1," Langer, W.D., Schloerb, F.P., Snell, R.L., and Young, J.S., *Ap.J. (Lett.)*, 239, L129 (1980).
20. "Models of Molecular Clouds and the Abundance of H_2CO and HCO^+ ," Wootten, H.A., Snell, R.L., and Evans, N.J., *Ap.J.*, 240, 532 (1980).
21. "A Study of Nine Interstellar Dark Clouds," Snell, R.L., *Ap.J. Suppl.*, 45, 121 (1981).
22. "Observations of HC_3N , HC_5N , and HC_7N in Molecular Clouds," Snell, R.L., Schloerb, F.P., Young, J.S., Hjalmarsen, A., and Friberg, P., *Ap.J.*, 244, 45 (1981).
23. "Detection of High Excitation Rotational Lines Of Cyanoacetylene in the OMC-1 Region," Loren, R., Erickson, N.R., Snell, R.L., Mundy, L., and Davis, J.H., *Ap.J. (Lett.)*, 244, L107 (1981).
24. "High-Resolution Profiles of the 5780A Interstellar Diffuse Band," Snell, R.L. and Vanden Bout, P.A., *Ap.J.*, 244, 844 (1981).
25. "High Resolution J=2-1 and J=1-0 Carbon Monoxide Line Profiles of Self-Reversed Molecular Clouds," Loren, R.B., Plambeck, R.L., Davis, J.H., and Snell, R.L., *Ap.J.*, 245, 495 (1981).
26. "Detection of Interstellar CO^+ Toward OMC-1," Erickson, N.R., Snell, R.L., Loren, R.B., Mundy, L., and Plambeck, R.L., *Ap.J. (Lett.)*, 245, L83 (1981).
27. "Observations of Interstellar Lithium Toward σ Scorpii, β^1 Scorpii, and 55 Cygni," Snell, R.L. and Vanden Bout, P.A., *Ap.J.*, 250, 160 (1981).
28. "Interstellar Chemistry: Polycyanoacetylene Formation", Langer, W.D., Schloerb, F.P., Snell, R.L., and Young, J.S., *Science*, 214, 688 (1981).
29. "Observations of High Velocity Molecular Gas Near Herbig-Haro Objects HH 7-11," Snell, R.L. and Edwards, S., *Ap.J.*, 251, 103 (1981).

30. "Detection of Deuteriocyanoacetylene in the Interstellar Cloud TMC 1," Schloerb, F.P., Snell, R.L., Langer, W.D., and Young, J.S., *Ap.J. (Lett.)*, 251, L37, (1981).
31. "Determination of Density Structure in Dark Clouds From CS Observations", Snell, R. L., Langer, W. D., and Frerking, M. A., *Ap.J.*, 255, 149 (1982).
32. "A Study of DCO⁺ Emission Regions in Interstellar Clouds," Wootten, H.S., Loren, R.B., and Snell, R.L., *Ap.J.*, 255, 160 (1982).
33. "Observations of High Velocity Molecular Gas Near Herbig-Haro Objects: HH 24-27 and HH 1-2", Snell, R. L. and Edwards, S., *Ap.J.*, 259, 668 (1982).
34. "Vibrationally Excited Cyanoacetylene in the Orion Molecular Cloud", Goldsmith, P. F., Snell, R. L., Deguchi, S., Krotkov, R., and Linke, R., *Ap.J.*, 260, 147 (1982).
35. "A Search for High Velocity Molecular Gas Around T Tauri Stars", Edwards, S. and Snell, R.L., *Ap.J.*, 261, 151 (1982).
36. "Detection of Bipolar CO Outflow in Orion", Erickson, N.R., Goldsmith, P.F., Snell, R.L., Berson, R.L., Huguenin, G.R., Ulich, B.L., Lada, C.J., *Ap.J. (Lett.)*, 261, L103 (1982).
37. "J=2-1 CO Observations of Molecular Clouds with High Velocity Gas: Evidence for Clumpy Outflows", Plambeck, R.L., Snell, R.L., and Loren R.B., *Ap.J.*, 266, 321 (1983).
38. "Six-Centimeter H₂CO Observations: Envelopes of Dark Clouds", Vanden Bout, P.A., Snell, R.L., and Wilson, T.L., *Astron. Astrophys.*, 118, 337 (1983).
39. "Structure of Dense Molecular Gas in TMC 1 from Observations of Three Transitions of HC₃N", Schloerb, F.P., and Snell, R.L., *Ap.J.*, 267, 163 (1983).
40. "A Survey of High Velocity Molecular Gas in the Vicinity of Herbig-Haro Objects, I", Edwards, S. and Snell, R.L., *Ap.J.*, 270, 605 (1983).
41. "Cyanoacetylene as a Density Probe of Molecular Clouds", Vanden Bout, P. A., Loren, R. B., Snell, R. L., and Wootten, A., *Ap.J.*, 271, 161 (1983).
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46. "Large Scale Structure of Molecular Gas in Heiles Cloud 2: A Remarkable Rotating Ring", Schloerb, F.P., and Snell, R.L., *Ap.J.*, 283, 129 (1984).

47. "High Velocity Molecular Jets", Snell, R.L., Scoville, N.Z., Sanders, D.B., and Erickson, N.R., *Ap.J.*, 284, 176 (1984).
48. "Bipolar Outflows in Dark Clouds", Goldsmith, P.F., Snell, R.L., Langer, W.D., and Hemeon-Heyer, M., *Ap.J.*, 286, 599 (1984).
49. "Search for Molecular Oxygen In Dense Interstellar Clouds", Goldsmith, P.F., Snell, R.L., Erickson, N.R., Dickman, R.L., Schloerb, F.P., and Irvine, W.M., *Ap.J.*, 289, 613 (1985).
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51. "Structure and Physical Properties of the Bipolar Outflow L1551", Snell, R.L. and Schloerb, F.P., *Ap.J.*, 295, 490 (1985).
52. "Further Studies of Vibrationally Excited Cyanoacetylene Near Orion IRC 2 and Other Sources", Goldsmith, P.F., Krotkov, R., and Snell, R.L., *Ap.J.*, 299, 405 (1985).
53. "IRAS Sources Associated with Shocked-Gas Regions in IC433, Huang, Y.-L., Dickman, R.L., and Snell, R.L., *Ap.J. (Letters)*, 302, L63 (1986).
54. "Compact Radio Sources in Molecular Clouds", Snell, R.L., and Bally, J., *Ap.J.*, 303, 683 (1986).
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56. "Models of Molecular Cloud Cores II: Multi-transition Study of C³⁴S", Mundy, L.G., Snell, R.L., Evans, N.J. II, Goldsmith, P.F., and Bally, J., *Ap.J.*, 306, 670 (1986).
57. "Structure and Kinematics of Molecular Jets", Snell, R.L., *Can. J. Phy.*, 64, 431 (1986).
58. "Extended Far Infrared Emission Associated with Mass Outflows from Young Stars, I. L1551 IRS-5", Edwards, S., Strom, S.E., Snell, R.L., Jarrett, T.H., Beichman, C.A., Strom, K.M., *Ap.J. (Lett.)*, 307, L63 (1986).
59. "A Study of the Morphology and Kinematics of the Dense Gas Associated Star Forming Regions", Heyer, M.C., Snell, R.L., Goldsmith, P.F., Strom, S.E., and Strom, K.M., *Ap.J.*, 308, 134 (1986).
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61. "1300 μ m Continuum Observations of the Sgr B2 Molecular Cloud Core", Goldsmith, P.F., Snell, R.L., and Lis, D.C., *Ap.J. (Lett.)*, 313, L5 (1987).
62. "Small-Scale Structure and Chemical Differentiation in the Central Region of the Sagittarius B2 Molecular Cloud," Goldsmith, P.F., Snell, R.L., Hasegawa, T., and Ukita, N., *Ap.J.*, 314, 525 (1987).
63. "CS Observations of L1551: No Rotating Disk", Moriarty-Schieven, G.H., Snell, R.L., and Strom, S.E., *Ap.J. (Lett.)*, 317, L95 (1987).

64. "Models of Molecular Cloud Cores III. A Multitransition Study of H₂CO", Mundy, L.G., Evans, N.J., II, Snell, R.L., and Goldsmith, F.P., *Ap.J.*, 318, 392 (1987).
65. "1300 μ m Continuum and C¹⁸O Line Mapping of the Giant Molecular Cloud Cores in Orion, W49, and W51", Schloerb, F.P., and Snell, R.L., and Schwartz, P., *Ap.J.*, 319, 426 (1987).
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68. "A Survey of IRAS Point Sources in Taurus for High Velocity Molecular Gas", Heyer, M.H., Snell, R.L., Goldsmith, P.F., and Myers, P.C., *Ap.J.*, 321, 370 (1987).
69. "Dense Cores in Dark Clouds. V. CO Outflow", Myers, P.C., Heyer, M., Snell, R.L., Goldsmith, P.F., *Ap.J.*, 324, 951 (1988).
70. "1.4mm H₂CO Observations of NGC 2071", Tauber, J.A., Goldsmith, P.F., and Snell, R.L., *Ap.J.*, 325, 846 (1988).
71. "Molecular Outflows Associated with Bright Far-Infrared Sources", Snell, R.L., Huang, Y.-L., Dickman, R.L., and Claussen, M.J., *Ap.J.*, 325, 853 (1988).
72. "High Resolution Observations of the L1551 Molecular Outflow II: Structure and Kinematics", Moriarty-Schieven, G.H. and Snell, R.L., *Ap.J.*, 332, 364 (1988).
73. "Molecular Outflows in the Monoceros OB1 Molecular Cloud", Margulis, M., Lada, C.J., and Snell, R.L., *Ap.J.*, 333, 316 (1988).
74. "Identification of RNO 43 and B335 as Two Highly Collimated Bipolar Flows Oriented Nearly in the Plane of the Sky", Cabrit, S., Goldsmith, P., and Snell, R., *Ap.J.*, 334, 196 (1988).
75. "1300 μ m Continuum and C¹⁸O Line Mapping of Giant Molecular Cloud Cores II: W3, NGC 2264, NGC 6334I, ρ Oph., and S140", Schwartz, P.R., Snell, R.L., and Schloerb, F.P., *Ap.J.*, 336, 519 (1989).
76. "CO in Starburst Galaxies", Jackson, J.M., Snell, R.L., Ho, P.T.P., and Barrett, A.H., *Ap.J.*, 337, 680 (1989).
77. "Comparison of the Far-Infrared and Carbon Monoxide Emission in Heiles' Cloud 2 and B18", Snell, R., Heyer, M., and Schloerb, P., *Ap.J.*, 337, 739 (1989).
78. "High Resolution Observations of the B335 and L723 Bipolar Molecular Outflows", Moriarty-Schieven, G. and Snell, R., *Ap.J.*, 338, 952 (1989).
79. "CO J=3-2 Observations of IRC+10216", Tauber, J., Kwan, J., Goldsmith, P., Snell, R., and Erickson, N., *A.J.*, 97, 236 (1989).
80. "The Bipolar Molecular Outflow of V645 Cygni", Schulz, A., Black, J., Lada, C., Ulich, B., Martin, R., Snell, R., and Erickson, N., *Ap.J.*, 341, 288 (1989).

81. "Shock Chemistry in the Molecular Clouds Associated with SNR IC443", Ziurys, L., Snell, R., and Dickman, R., *Ap.J.*, 341, 288 (1989).
82. "Very High-Velocity Emission from Molecular Outflows", Margulis, M. and Snell, R., *Ap.J.*, 343, 779 (1989).
83. "A CO and Far-Infrared Study of the S254-S258 Region", Heyer, M.H., Snell, R.L., Morgan, J., and Schloerb, F.P., *Ap.J.*, 346, 220 (1989).
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85. "Molecular Outflows Associated with a Flux Limited Sample of Bright Far-Infrared Sources", Snell, R., Dickman, R., and Huang, Y.-L., *Ap.J.*, 352, 139 (1990).
86. "Analysis of ^{12}CO and ^{13}CO Emission in a 3 Square Degree Region of the Galactic Plane Between $l = 23^\circ - 25^\circ$ ", Lee, Y., Snell, R., and Dickman, R., *Ap.J.*, 355, 536 (1990).
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88. "Radio Continuum Emission from Young Stellar Objects in L1641", Morgan, J., Snell, R., and Strom, K., *Ap.J.*, 362, 274 (1990).
89. "Molecular Clouds Associated With Luminous Far-Infrared Sources in the Outer Galaxy", Carpenter, J., Snell, R., and Schloerb, F.P., *Ap.J.*, 362, 147 (1990).
90. "Probing the Core of Cepheus A: Millimeter and Sub-Millimeter Observations", Moriarty-Schieven, G., Snell, R., Hughes, V., *Ap.J.* 374, 169 (1991).
91. "Molecular Outflows Associated with Young Stellar Objects in L1641", Morgan, J., Schloerb, P., Snell, R., and Bally, J., *Ap.J.*, 376, 618 (1991).
92. "Star Counts and Carbon Monoxide Observations of Maddalena's Cloud", Lee, Y, Snell, R., and Dickman, R., *Ap.J.*, 379, 639 (1991).
93. "A Search for Remanant Molecular Disks Around Young Nearby Stars", Skrutskie, M., Snell, R., Dutkevitch, D., Strom, S., Schloerb, F.P., and Dickman, R., *A.J.*, 102, 1749, (1991).
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95. "Evidence for Large Scale Expanding Motion within the Orion A Molecular Cloud", Heyer, M.H., Morgan, J., Schloerb, F.P., Snell,R.L., and Goldsmith, P.F., *Ap.J. Letters*, 395, L99 (1992).
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100. "Detection of a Gaseous Circumstellar Disk Associated with GG Tau", Skrutskie, M, Snell, R., Strom, K, Strom, S., Edwards, S., Fukui, Y., Mizuno, A., Hayashi, M., and Ohashi, N., *Ap. J.* 409, 422 (1993).
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108. "Detection of a Circumstellar Gas Around DM Tau: A Protoplanetary Disk Around a Single Star?", T. Handa, S. Miyama, T. Yamashita, T. Omodaka, Y. Kitamura, M. Hayashi, T. Onishi, R. Snell, S. Strom, K. Strom, M. Skrutskie, S Edwards, N. Ohashi, K. Sunada, M. Saito, Y. Fukui, A. Mizuno, J. Watanabe, H. Kataza, *Ap.J.* 449, 894 (1995).
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