CURRICULUM VITAE

Steven R. Spangler

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Education and Professional History

- B.A. 1972, Physics, University of Iowa
- M.S. 1972, Astronomy, University of Iowa
- Ph.D. 1975, Physics, University of Iowa

Professional and Academic Positions

- Professor, University of Iowa, 1988 - 2021
- Lecturer, Abdus Salam International Center for Theoretical Physics, Autumn College on Plasma Physics, Trieste, Italy, Oct. 8-12, 2001
- Visiting Scientist, Istituto di Radioastronomia, Bologna, Italy, Summer 1986, Fall 1990, Fall 1998
- Associate Professor, University of Iowa, 1984 - 1988
- Assistant Professor, University of Iowa, 1982 - 1984
- Associate Scientist, National Radio Astronomy Observatory, 1980 - 1982
- Visiting Assistant Professor, University of Iowa, 1980 - 1981
- Assistant Scientist, National Radio Astronomy Observatory, 1978 - 1980
- Postdoctoral Research Associate, National Radio Astronomy Observatory, 1976 - 1978
- Postdoctoral Research Associate, University of Iowa, 1975 - 1976
- Visiting Research Assistant, Arecibo Observatory, 1973 - 1975
- Research Assistant, University of Iowa, 1971 - 1975

Honors and Awards

- Fellow of the American Physical Society
- American Geophysical Union, Editor's Citation for Excellence in Refereeing, Outstanding Service to the Authors and Readers of *Geophysical Research Letters*, 10 May 1999

Memberships

- American Astronomical Society
- American Physical Society
- APS Division of Plasma Physics
- Cedar Amateur Astronomers

Professional Referee or Consultant

- The Astrophysical Journal
- Geophysical Research Letters
- Journal of Geophysical Research
- Journal of Plasma Physics
- Physics of Plasmas
- Physics of Fluids
- Physical Review Letters
- Physical Review
- Astronomy and Astrophysics
- The Astronomical Journal
- Monthly Notices of the Royal Astronomical Society
- Proposal Reviewer, U.S. VLBI Network
- Proposal Reviewer and Review Panel Member, National Science Foundation, National Aeronautics and Space Administration, Smithsonian Institution, Scholarly Studies Program
- Proposal Referee, National Radio Astronomy Observatory
- Review Panel Member, "Gutachter", Deutsche Forschungsgemeinschaft (2006, 2012)

Students Supervised

JEAN JOSEPHINE POGGE, M.S., May 1984
"Magnetic Field Structure in Extended Extragalactic Radio Sources"

ALAN LEE FEY, M.S., December 1984
"22.2 GHz VLBI Observations of the Radio Source 0552+398 (DA 193)"

JAMES A. LECKBAND, M.S., May 1988
"On Evidence for Quasi-Parallel and Quasi-Perpendicular Acceleration in Supernova Remnants"

TAKAYUKI SAKURAI, M.S., August 1988
"Physical Characteristics of Lobes of Luminous Radio Galaxies"

ALAN LEE FEY, Ph.D., August 1989
"VLA and VLBI Angular Broadening Measurements: The Distribution of Interstellar Scattering at Low Galactic Latitudes"

JAMES A. LECKBAND, Ph.D., May 1992
"Magnetohydrodynamic Wave-Associated Plasma Density Fluctuations in the Earth's Foreshock Region"

TAKAYUKI SAKURAI, Ph.D., December 1993
"Radioastronomical Measurements of Plasma Characteristics of the Solar Corona and the Solar Wind"

ANTHONY H. MINTER, Ph.D., August 1995
"Studying Interstellar Plasma Turbulence through Precision
Faraday Rotation Measurements of Extragalactic Radio Sources"

JENNIFER EMILIE WURSTER, M.S., May 1997
"Improvement of a 5 GHz Radio Telescope Receiver by Installation of a Dicke Switch"

SALVATORE MANCUSO, Ph.D., December 1999
"Faraday Rotation as a Probe of Coronal and Astrophysical Plasmas"

PETER S. KORTENKAMP, Ph.D., July 2005
"Near-Sun Solar Wind Turbulence Investigations Using Very Long Baseline Interferometry"

SARAH E. IVERSON, M.S., December 2005
"The Distribution of Absolute Magnitudes of Solar Type Stars"

CATHERINE A. WHITING, M.S., May 2010
"Considerations for Expanded Very Large Array Coronal Faraday Rotation Measurements"

ALLISON H. SAVAGE, M.S., May 2013
"Probing the Rosette Nebula Stellar Bubble with Faraday Rotation"

JASON E. KOOI, Ph.D., Ph.D., August 2016
"Very Large Array Faraday Rotation Studies of the Coronal Plasma"

ALLISON H. SAVAGE, Ph.D., May 2018
"A Study of Magnetic Fields in HII Regions Using Faraday Rotation"

Scholarship

Publications

1. S.R. SPANGLER
On the Measurement of Vorticity in Astrophysical Fluids
Research Notes of the American Astronomical Society (non-refereed) **6,** 205 (3pp), 2022
Expanded Version: arXiv:2209.06707

2. S.K. OCKER, J.M. CORDES, S. CHATTERJEE, D.A. GURNETT, W.S. KURTH, and S.R. SPANGLER
Persistent Plasma Waves in Interstellar Space Detected by Voyager 1
Nature Astronomy **5,** 761, 2021

3. S.R. SPANGLER
A Method for a Pseudo-Local Measurement of the Galactic Magnetic Field
Research Notes of the American Astronomical Society (non-refereed) **5,** 12 (3pp), 2021
Expanded Version: arXiv:2101.01118

4. S.R. SPANGLER
Comparison of Radioastronomical Estimates of the Coronal and Solar Wind Magnetic Field with Measurements from Parker Solar Probe
Research Notes of the American Astronomical Society (non-refereed) **4,** 147 (4pp), 2020

5. S.R. SPANGLER
Radio Propagation Studies of the Solar Wind in the Era of Parker Solar Probe
Research Notes of the American Astronomical Society (non-refereed) **4,** 102 (4 pp), 2020

6. B.M. BERGERUD, S.R. SPANGLER, and K.M. BEAUCHAMP
Realistic Models for Filling and Abundance Discrepancy Factors in Photoionized Nebulae
Monthly Notices of the Royal Astronomical Society **492,** 1142-1153, 2020

7. A.H. COSTA and S.R. SPANGLER
A Faraday Rotation Study of the Stellar Bubble and HII Region Associated with the W4 Complex
Astrophysical Journal **865,** 65 (22pp), 2018

8. J.E. KOOI, P.D. FISCHER, J.J. BUFFO, and S.R. SPANGLER
VLA Measurements of Faraday Rotation through Coronal Mass Ejections
Solar Physics **292,** 56 (45pp), 2017

9. A. H. COSTA, S. R. SPANGLER, J. R. SINK, S. BROWN, and S. A. MAO
Denser Sampling of the Rosette Nebula with Faraday Rotation Measurements: Improved Estimates of Magnetic Fields in HII Regions
Astrophysical Journal **821,** 92 (17pp), 2016

10. G. LE CHAT, O. COHEN, J.C. KASPER, and S.R. SPANGLER
Diagnostics of the Solar Corona from Comparison between Faraday Rotation Measurements and MHD Simulations
Astrophysical Journal **789,** 163 (7pp), 2014

11. J.E. KOOI, P.D. FISCHER, J.J. BUFFO, and S.R. SPANGLER
Measurements of Coronal Faraday Rotation and 4.6 Solar Radii
Astrophysical Journal **784,** 68 (17pp), 2014

12. M. HAVERKORN and S.R. SPANGLER
Plasma Diagnostics of the Interstellar Medium with Radio Astronomy
Space Science Reviews **178,** 483-511, 2013

13. A.H. SAVAGE, S.R. SPANGLER, and P.D. FISCHER
Probing the Rosette Nebula Stellar Bubble with Faraday Rotation
Astrophysical Journal **765,** 42 (14pp), 2013

14. S. R. SPANGLER, A.H. SAVAGE, and S. REDFIELD
Properties of Turbulence in the Very Local Interstellar Clouds
Astrophysical Journal **742,** 30 (14pp), 2011

15. S. R. SPANGLER, A.H. SAVAGE, and S. REDFIELD
Observational Tests of the Properties of Turbulence in the Very Local Interstellar Medium
Nonlinear Processes in Geophysics **17**, 785-793, 2010

16. S. R. SPANGLER
Joule Heating and Anomalous Resistivity in the Solar Corona
Nonlinear Processes in Geophysics **16**, 443-452, 2009

17. S. R. SPANGLER
Plasma Turbulence in the Local Bubble
Space Science Reviews **143,** 277-290, 2009

18. C. A. WHITING, S. R. SPANGLER, L. D. INGLEBY, and L. M. HAFFNER
Confirmation of a Faraday Rotation Measure Anomaly in Cygnus
Astrophys. J. **694**, 1452-1463, 2009

19. S. R. SPANGLER
A Technique for Measuring Electrical Currents in the Solar Corona
Astrophys. J. **670**, 841-848, 2007

20. L. D. INGLEBY, S. R. SPANGLER, and C. A. WHITING
Probing the Large Scale Plasma Structure of the Solar Corona with Faraday Rotation Measurements, *Astrophys. J* **668**, 520-532, 2007

21. S. R. SPANGLER
The Strength and Structure of the Coronal Magnetic Field
*Space Science Review*s **121**, 189-200, 2005

22. L. G. SPITLER and S. R. SPANGLER
Limits on Enhanced Radio Wave Scattering by Supernova Remnants
Astrophys. J. **632**, 932, 2005

23. S. R. SPANGLER and L. G. SPITLER
An Empirical Investigation of Compressibility in Magnetohydrodynamic Turbulence
Phys. Plasmas, **11**, 1969, 2004

24. S. R. SPANGLER
The Magnitude of Heating of the Diffuse Ionized Gas of the Interstellar Medium by Landau Damping of Turbulence
Astronomy & Astrophysics, **407**, 563, 2003

25. S. R. SPANGLER
Blending of Plasma and Neutral Gas in the Sun, the Heliosphere, and the Interstellar Medium
Phys. Plasmas, **10**,2169, 2003

26. S. R. SPANGLER
The Fourth Workshop on Nonlinear Processes in Space Physics: Epilogue and Telesis
Nonlinear Processes in Geophysics, **10**, 179, 2003

27. S. R. SPANGLER
The Small Amplitude of Density Turbulence in the Inner Solar Wind
Nonlinear Processes in Geophysics, **10**, 113, 2003

28. S. R. SPANGLER
The Amplitude of Magnetohydrodynamic Turbulence in the Inner Solar Wind
Astrophys. J. **576**, 997, 2002

29. S. R. SPANGLER, D. W. KAVARS, P. S. KORTENKAMP, M. BONDI, F. MANTOVANI AND W. ALEF
Very Long Baseline Interferometer Measurements of Turbulence in the Inner Solar Wind,
Astronomy and Astrophysics, **384**, 654-665, 2002

30. L. O'C. DRURY … S. R. SPANGLER *et al*.
Test of Galactic Cosmic Ray Source Models - Working Group Report
Space Science Reviews, **99**, 329, 2001

31. S. R. SPANGLER
Multi-Scale Plasma Turbulence in the Diffuse Interstellar Medium
Space Science Reviews, **99**, 261, 2001

32. S. MANCUSO and S. R. SPANGLER
Faraday Rotation and Models for the Plasma Structure of the Solar Corona
Astrophys. J. **539**, 480, 2000

33. S. R. SPANGLER and S. MANCUSO
Radioastronomical Constraints on Coronal Heating by High Frequency Alfvén Waves
Astrophys. J. **530**, 491, 2000

34. S. MANCUSO and S. R. SPANGLER
Coronal Faraday Rotation Observations: Measurements and Limits on Plasma Inhomogeneities
Astrophys. J. **525**, 195, 1999

35. S. R. SPANGLER
Two-Dimensional Magnetohydrodynamics and Interstellar Plasma Turbulence
Astrophys. J. **522**, 879, 1999

36. S. R. SPANGLER and J. M. CORDES
VLBI Measurements of Plasma Turbulence Associated with the Cygnus OB1 Association
Astrophys. J. **505**, 766, 1998

37. S. R. SPANGLER
Magnetohydrodynamic Turbulence and Enhanced Atomic Processes in Astrophysical Plasmas
Phys. Plasmas **5**, 3006, 1998

38. A. BHATTACHARJEE, C. S. NG, and S. R. SPANGLER
Weakly Compressible Magnetohydrodynamic Turbulence in the Solar Wind and the Interstellar Medium
Astrophys. J. **494**, 409, 1998

39. A. H. MINTER and S. R. SPANGLER
Heating of the Interstellar Diffuse Ionized Gas via the Dissipation of Turbulence
Astrophys. J. **485**, 182--194, 1997

40. S. R. SPANGLER, J. A. LECKBAND, and I. H. CAIRNS
Observations of the Parametric Decay Instability of Nonlinear Magnetohydrodynamic Waves
Phys. Plasmas **4**, 846--855, 1997

41. R. R. GRALL, W. A. COLES, S. R. SPANGLER, T. SAKURAI, and J. K. HARMON
Observations of Field-Aligned Density Microstructure Near the Sun
J. Geophys. Res. **102**, 263--273, 1997

42. S. R. SPANGLER
VLBI Observations of Turbulence in the Inner Solar Wind
Astrophys. Space Sci. **243**, 65--75, 1996

43. A. H. MINTER and S. R. SPANGLER
Observations of Turbulent Fluctuations in the Interstellar Plasma Density and Magnetic Field on Spatial Scales of 0.01 to 100 Parsecs
Astrophys. J. **458**, 194--214, 1996

44. S. R. SPANGLER and T. SAKURAI
Radio Interferometer Observations of Solar Wind Turbulence from the Orbit of Helios to the Solar Corona
Astrophys. J. **445**, 999--1016, 1995

45. J. W. ARMSTRONG, B. J. RICKETT, and S. R. SPANGLER
Electron Density Power Spectrum in the Local Interstellar Medium
Astrophys. J. **443**, 209--221, 1995

46. G. GIOVANNINI, L. FERETTI, T. VENTURI, L. LARA,
J. MARCAIDE, M. RIOJA, S. R. SPANGLER, and A. E. WEHRLE
VLBI Observations of a Complete Sample of Radio Galaxies
IV. The Radio Galaxies NGC2484, 3C109 and 3C382
Astrophys. J. **435**, 116--127, 1994

47. T. SAKURAI and S. R. SPANGLER
The Study of Coronal Plasma Structures and Fluctuations with Faraday Rotation Measurements
Astrophys. J. **434**, 773-785, 1994

48. M. BONDI, L. PADRIELLI, L. GREGORINI, F. MANTOVANI,
N. SHAPIROVSKAYA, and S. R. SPANGLER
One-Year Modulation in the Flux Density Time Series of Low Frequency Variables
Astron. Astrophys. **287**, 390--402, 1994

49. T. SAKURAI and S. R. SPANGLER
Use of the Very Large Array for Measurement of Time Variable Faraday Rotation
Radio Sci. **29**, 635--662, 1994

50. S. R. SPANGLER, W. A. EASTMAN, L. GREGORINI, F. MANTOVANI, and L. PADRIELLI
Refractive Interstellar Scintillations and Low Frequency Variability: A Detailed Analysis Using Measured Source Structures
Astron. Astrophys. **267**, 213--228, 1993 [Erratum: **286**, 349--350, 1994]

51. S. R. SPANGLER and B. B. PLAPP
Characteristics of Obliquely Propagating Nonlinear Alfvén Waves
Phys. Fluids B **4**, 3356, 1992

52. T. SAKURAI, S. R. SPANGLER, and J. W. ARMSTRONG
VLBI Measurements of Plasma Turbulence in the Solar Wind
J. Geophys. Res. **97**, 17,141, 1992

53. L. PADRIELLI, W. EASTMAN, L. GREGORINI, F. MANTOVANI, and S. SPANGLER
VLBI Structures of Low Frequency Variable Sources at 608 MHz
Astron. Astrophys. **249**, 351, 1991

54. J. M. CORDES, J. M. WEISBERG, D. A. FRAIL, S. R. SPANGLER, and M. RYAN
The Galactic Distribution of Free Electrons
Nature **354**, 121, 1991

55. S. R. SPANGLER
The Dissipation of MHD Turbulence Responsible for Interstellar
Scintillation and the Heating of the Interstellar Medium
Astrophys. J. **376**, 540, 1991

56. A. L. FEY, S. R. SPANGLER, and J. M. CORDES
VLA and VLBI Angular Broadening Measurements: The Distribution of Interstellar
Scattering at Low Galactic Latitudes
Astrophys. J. **372**, 132, 1991

57. S. R. SPANGLER and R. J. REYNOLDS
A Comparison of H Alpha Intensity and Radio Wave Scattering on Eight Low-Latitude Lines of Sight
Astrophys. J. **361**, 116, 1990

58. F. MANTOVANI, R. FANTI, L. GREGORINI, L. PADRIELLI, and S. SPANGLER
Interstellar Medium Parameters Derived from Low Frequency Variability
Astron. Astrophys. **223**, 535, 1990

59. T. J. LAZIO, S. R. SPANGLER, and J. M. CORDES
Faraday Rotation Measure Variations in the Cygnus Region and the
Spectrum of Interstellar Plasma Turbulence
Astrophys. J. **363**, 515, 1990

60. S. R. SPANGLER and C. R. GWINN
Evidence for an Inner Scale to the Density Turbulence in the Interstellar Medium
Astrophys. J. Lett. **353**, L29, 1990

61. S. R. SPANGLER
Kinetic Effects on Alfvén Wave Nonlinearity II: The Modified Nonlinear Wave Equation
Phys. Fluids B **2**, 407--418, 1990

62. S. R. SPANGLER
Kinetic Effects on Alfvén Wave Nonlinearity I: Ponderomotive Density Fluctuations
Phys. Fluids B **1**, 1738--1746, 1989

63. J. A. LECKBAND, S. R. SPANGLER, and I. H. CAIRNS
On Evidence for Quasi-Parallel and Quasi-Perpendicular Acceleration in Supernova Remnants
Astrophys. J. **338**, 963--971, 1989

64. A. L. FEY, S. R. SPANGLER, and R. L. MUTEL
VLBI Angular Broadening Measurements in the Cygnus Region
Astrophys. J. **337**, 730--738, 1989

65. S. SPANGLER, R. FANTI, L. GREGORINI, and L. PADRIELLI
The Role of Refractive Interstellar Scintillation in the Low Frequency Variability of Extragalactic Radio Sources
Astron. Astrophys. **209**, 315--326, 1989

66. S. R. SPANGLER and J. M. CORDES
Interstellar Scattering of the Radio Source 2013+370
Astrophys. J. **332**, 346--353, 1988

67. STEVEN SPANGLER, STEPHEN FUSELIER, ALAN FEY, and GREGORY ANDERSON
An Observational Study of MHD Wave-Induced Density Fluctuations Upstream of the Earth's Bow Shock
J. Geophys. Res. **93**, 845--857, 1988

68. STEVEN R. SPANGLER, ALAN L. FEY, and JAMES M. CORDES
VLA and Low-Frequency VLBI Observations of the Radio Source 0503+467: Austere Constraints on Interstellar Scattering in Two Media
Astrophys. J. **322**, 909--916, 1987

69. S. MACHIDA, S. R. SPANGLER, and C. K. GOERTZ
Simulation of the Amplitude-Modulated Circularly Polarized Alfvén Waves for Beta Less Than One
J. Geophys. Res. **92**, 7413--7422, 1987

70. STEVEN R. SPANGLER
Density Fluctuations Induced by Nonlinear Alfvén Waves
Phys. Fluids **30**, 1104--1109, 1987

71. STEVEN R. SPANGLER
Constraints on Extragalactic-Jet Characteristics from Lobe Observations
Can. J. Phys. **64**, 378--380, 1986

72. STEVEN R. SPANGLER
The Evolution of Nonlinear Alfvén Waves Subject to Growth and Damping
Phys. Fluids **29**, 2535--2547, 1986

73. ALAN L. FEY, STEVEN R. SPANGLER, and STEVEN T. MYERS
15 GHz VLA Observations of the Radio Galaxies 3C 166 and 3C 411
Astron. J. **91**, 1279--1285, 1986

74. STEVEN R. SPANGLER, ROBERT L. MUTEL, JOHN M. BENSON, and JAMES M. CORDES
Interstellar Scattering of Compact Radio Sources near Supernova Remnants
Astrophys. J. **301**, 312--319, 1986

75. STEVEN R. SPANGLER
Nonlinear Astrophysical Alfvén Waves: Onset and Outcome of the Modulational Instability
Astrophys. J. **299**, 122--137, 1985

76. STEVEN R. SPANGLER and TAKAYUKI SAKURAI
Limits on Thermal Plasma in the Lobes of the Radio Galaxies 3C 79 and 3C 379.1
Astrophys. J. **297**, 84--89, 1985

77. ALAN L. FEY, STEVEN R. SPANGLER, ROBERT L. MUTEL, and JOHN M. BENSON
VLBI Observations at 22.2 Gigahertz of the Radio Source 0552+398 (DA 193)
Astrophys. J. **295**, 134--138, 1985

78. STEVEN T. MYERS and STEVEN R. SPANGLER
Synchrotron Aging in the Lobes of Luminous Radio Galaxies
Astrophys. J. **291**, 52--62, 1985

79. STEVEN R. SPANGLER, JAMES P. SHEERIN, and GERALD L. PAYNE
A Numerical Study of Nonlinear Alfvén Waves and Solitons
Phys. Fluids **28**, 104--109, 1985

80. STEVEN R. SPANGLER, STEVEN T. MYERS, and JEAN J. POGGE
VLA Observations of Radio Galaxies with Extended Lobe Emission: 3C 79 and 3C 430
Astron. J. **89**, 1478--1486, 1984

81. J. H. SIMONETTI, J. M. CORDES, and S. R. SPANGLER
Small-Scale Variations in the Galactic Magnetic Field: The Rotation Measure Structure Function and Birefringence in Interstellar Scintillations
Astrophys. J. **284**, 126--134, 1984

82. STEVEN R. SPANGLER and JEAN J. POGGE
VLA Observations of the Distant Radio Galaxy 3C 411
Astron. J. **89**, 342--349, 1984

83. STEVEN R. SPANGLER and JAMES P. SHEERIN
Alfvén Wave Collapse and the Stability of a Relativistic Electron Beam in a Magnetized Astrophysical Plasma
Astrophys. J. **272**, 273--278, 1983

84. STEVEN R. SPANGLER
Determination of the Properties of Magnetic Turbulence in Radio Sources
Astrophys. J. Lett. **271**, L49--L53, 1983

85. STEVEN R. SPANGLER, ROBERT L. MUTEL, and JOHN M. BENSON
VLBI Observations of the Radio Sources 0552 + 398 and 1848 + 283: Measurements of the Departure from Equipartition
Astrophys. J. **271**, 44--50, 1983

86. STEVEN R. SPANGLER
The Transport of Polarized Synchrotron Radiation in a Turbulent Medium
Astrophys. J. **261**, 310--320, 1982

87. L. J. RICKARD, DEBORAH A. CROCKER, P. F. BOWERS, and S. R. SPANGLER
An Accurate Position for the 6-cm OH Masers in W3
Astron. J. **87**, 1806--1809, 1982

88. STEVEN R. SPANGLER and ALAN H. BRIDLE
Dual-Frequency VLA Observations of the Extended Radio Galaxy 3C 166
Astron. J. **87**, 1270--1278, 1982

89. STEVEN R. SPANGLER and JAMES P. SHEERIN
A Soliton Gas Model for Astrophysical Magnetized Plasma Turbulence
Astrophys. J. **257**, 855--861, 1982

90. STEVEN R. SPANGLER and JAMES P. SHEERIN
Properties of Alfvén Solitons in a Finite-Beta Plasma
J. Plasma Phys. **27**, 193--198, 1982
[Corrigendum: **32**, 347, 1985]

91. L. A. HIGGS, R. S. ROGER, T. L. LANDECKER, S. R. SPANGLER,
J. M. CORDES, and J. M. DICKEY
The Point Radio Source in the Supernova Remnant G 78.2+2.1
Astron. Astrophys. **103**, 370--373, 1981

92. FRAZER N. OWEN, DAVID J. HELFAND, and STEVEN R. SPANGLER
The Correlation of X-Ray Emission with Strong Millimeter Activity in Extragalactic Sources
Astrophys. J. Lett. **250**, L55--L58, 1981

93. STEVEN R. SPANGLER, J. M. BENSON, JAMES M. CORDES,
RODNEY B. HALL, THOMAS W. JONES, and KENNETH J. JOHNSTON
Dual-Frequency VLBI Observations of Extragalactic Sources with Distinctive Radio Spectra
Astron. J. **86**, 1155--1164, 1981

94. S. R. SPANGLER and C. K. GOERTZ
The Effect of Turbulence on the K || B Relativistic Beam Instability
Astrophys. J. **247**, 1078--1088, 1981

95. STEVEN R. SPANGLER and WILLIAM D. COTTON
Broadband Radio Observations of Low-Frequency Variable Sources
Astron. J. **86**, 730--746, 1981

96. STEVEN R. SPANGLER and JOHN P. BASART
A Model for Energetic Electron Transport in Extragalactic Radio Sources
Astrophys. J. **243**, 1103--1114, 1981

97. DAVID B. COOK and S. R. SPANGLER
The Production of Flat Radio Spectra by Superposition of Source Subcomponents
Astrophys. J. **240**, 751--758, 1980

98. W. D. COTTON, J. J. WITTELS, I. I. SHAPIRO, J. MARCAIDE, F. N. OWEN, S. R. SPANGLER, A. RIUS, C. ANGULO, T. A. CLARK, and C. A. KNIGHT
The Very Flat Radio Spectrum of 0735+178: A Cosmic Conspiracy?
Astrophys. J. Lett. **238**, L123--L128, 1980

99. STEVEN R. SPANGLER and DAVID B. COOK
VLA Observations of Steep-Spectrum, Variable Radio Sources
Astron. J. **85**, 659--667, 1980

100. FRAZER N. OWEN, STEVEN R. SPANGLER, and WILLIAM D. COTTON
Simultaneous Radio Spectra of Sources with Strong Millimeter Components
Astron. J. **85**, 351--362, 1980

101. STEVEN R. SPANGLER
Interpretation of Radio Spectra of Compact Extragalactic Sources
Astrophys. Lett. **20**, 123--129, 1980

102. J. R. DICKEL and S. R. SPANGLER
Measurements of the Radio Flux Density of Tycho's SNR Separated by a 15-Year Interval
Astron. Astrophys. **79**, 243--244, 1979

103. STEVEN R. SPANGLER
The Collimation of Double Radio Sources
Astron. J. **84**, 1470--1477, 1979

104. STEVEN R. SPANGLER, JAMES M. CORDES, and KARIE A. MYERS
Scintillating Confusion: Evaluation of a Technique for Measuring Compact Structure in Weak Radio Sources
Astron. J. **84**, 1129--1137, 1979

105. STEVEN R. SPANGLER
An Alternative to In Situ Acceleration Processes in Extragalactic Radio Sources
Astrophys. J. Lett. **232**, L7--L10, 1979

106. WILLIAM D. COTTON and STEVEN R. SPANGLER
Broad-Band Flux Density Variations of the Extragalactic Radio Source 1611+343
Astrophys. J. Lett. **228**, L63--L66, 1978

107. STEVEN R. SPANGLER and KARIE A. MYERS
Frequency Dependence of Compact Structure in Extended Extragalactic Radio Sources
Astron. J. **83**, 547--559, 1978

108. STEVEN R. SPANGLER and KARIE A. MYERS
Investigation of 410-MHz Fine Structure in Candidate Low-Frequency Variable Sources
Astron. J. **83**, 147--152, 1978

109. STEVEN R. SPANGLER, FRAZER N. OWEN, and RUSSELL A. HULSE
Radio Survey of Close Binary Stars
Astron. J. **82**, 989--997, 1977

110. J. W. ARMSTRONG, STEVEN R. SPANGLER, and PHILIP E. HARDEE
Search for Microarcsecond Structure in Low-Frequency Variable Radio Sources
Astron. J. **82**, 785--790, 1977

111. F. N. OWEN and S. R. SPANGLER
Observations with the VLA of the Radio Binary Star AR Lacertae
Astrophys. J. Lett. **217**, L41--L43, 1977

112. J. T. KARPEN, C. J. CRANNELL, R. W. HOBBS, S. P. MARAN, T. J. MOFFETT, D. BARDAS, G. W. CLARK, D. R. HEARN, F. K. LI, T. H. MARKERT, J. E. McCLINTOCK, F. A. PRIMINI, J. A. RICHARDSON, S. CRISTALDI, M. RODONO, D. A. GALASSO, A. MAGUN, G. J. NELSON, O. B. SLEE, P. F. CHUGAINOV, YU. S. EFIMOV, N. M. SHAKHOVSKOY, M. R. VINER, V. R. VENUGOPAL, S. R. SPANGLER, M. R. KUNDU, and D. S. EVANS
Coordinated X-Ray, Optical, and Radio Observations of YZ Canis Minoris
Astrophys. J. **216**, 479--490, 1977

113. STANLEY D. SHAWHAN, MARK W. HODGES, and STEVEN R. SPANGLER
The 1975.9 Jovian Decimetric Spectrum
J. Geophys. Res. **82**, 1901--1905, 1977

114. STEVEN R. SPANGLER
Radio Observations of the Binary Stars UX Arietis and HR 1099
Astron. J. **82**, 169--175, 1977

115. JOHN D. FIX and STEVEN R. SPANGLER
A Search for Variable 430 MHz Continuum Emission from Red Giant Stars
Astrophys. J. **209**, 503--504, 1976

116. JOHN D. FIX and STEVEN R. SPANGLER
Spectrophotometry of the Flare Star BY Draconis
Astrophys. J. Lett. **205**, L163--L164, 1976

117. STEVEN R. SPANGLER
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118. S. R. SPANGLER and S. D. SHAWHAN
A Search for Slowly Varying Radio Continuum Emission from UV Ceti Stars
Astrophys. J. **205**, 472--474, 1976

119. STEVEN R. SPANGLER and THOMAS J. MOFFETT
Simultaneous Radio and Optical Observations of UV Ceti-Type Flare Stars
Astrophys. J. **203**, 497--508, 1976

120. S. R. SPANGLER, J. M. RANKIN, and S. D. SHAWHAN
Four-Stokes-Parameter Radio Frequency Polarimetry of a Flare from AD Leonis
Astrophys. J. Lett. **194**, L43--L46, 1974

121. S. R. SPANGLER, S. D. SHAWHAN, and J. M. RANKIN
Short Duration Radio Flares of UV Ceti Stars
Astrophys. J. Lett. **190**, L129--L131, 1974

122. S. R. SPANGLER and S. D. SHAWHAN
Short Duration Solar Microwave Bursts and Associated Soft X-Ray Emission
Sol. Phys. **37**, 189--203, 1974

123. J. S. NEFF and S. R. SPANGLER
A Lecture Demonstration Apparatus for Simulation of Eclipses and
Light Variations of Eclipsing Binary Stars
Mercury **1**, 10--12, 1972

Invited Talks at Scientific Meetings

1. "Stellar Bubbles: Scaled-Up Versions of the Heliosphere", presented at 13th Annual International Astrophysics Conference, *Voyager, IBEX, and the Interstellar Medium,* Myrtle Beach, South Carolina, March 10- 14, 2014.

2. "Faraday Rotation as a Probe of the Coronal Magnetic Field", presented at *Workshop on Coronal Magnetism – Connecting Models to Data and the Corona to the Earth,* Boulder, Colorado, May 21- 23, 2012.

3. "What Can We Know About Microscales in Interstellar Turbulence", presented at workshop of the International Space Science Institute (ISSI), *Microscales of Cosmic Plasmas*, Bern, Switzerland, April 16-20, 2012.

4. "Interstellar Turbulence", presented at international workshop, *Three Years of Observations with IBEX – What Did We Learn About the Outer Heliosphere,* Bad Honnef, Germany, March 28-31, 2012.

5. "Radio Remote Sensing of the Solar Corona and Solar Wind: Results and Future Prospects", presented at Tenth International Astrophysics Conference, "Physics of the Heliosphere: A 10 Year Retrospective", Maui, Hawaii, March 13-18, 2011.

6. "Ion-Neutral Collisions in the Interstellar Medium: Wave Damping and Elimination of Collisionless Processes", presented at conference "Partially Ionized Plasmas Throughout the Universe", Nashville, Tennessee, October 3-8, 2010.

7. "Observational Tests of the Properties of Turbulence in the Very Local Interstellar Medium" presented at the 8th International Workshop on Nonlinear Waves and Turbulence in Space Plasmas, La Jolla, California, March 1-5, 2010.

8. "Radio Remote Sensing of the Corona and the Solar Wind," presented at IAU Symposium 257, "Universal Heliophysical Processes," Ioannina, Greece, September 15 – 19, 2008

9. "Joule Heating and Anomalous Resistivity in the Solar Corona," presented at the 7th International Workshop on Nonlinear Waves and Turbulence in Space Plasmas, Beaulieu, France, April 21 – 25, 2008.

10. "Turbulence in the Local ISM and Local Bubble," at workshop "From the Heliosphere to the Local Bubble," International Space Science Institute, Bern, Switzerland, 15-19 October 2007

11. "The Big Power Law in the Sky: Existence and Significance of Large-Inertial Subrange Turbulence in the Ionized Interstellar Medium," in Topical Session on Turbulence in Diffuse Astrophysical Environments, 210th Meeting of the American Astronomical Society, Honolulu, Hawaii, May 27 - 31, 2007

12. "Radio Scattering Observations of Turbulence in the Solar Corona and Interstellar Medium," at the 6th Annual International Astrophysics Conference (organized by Institute of Geophysics and Planetary Physics), Honolulu, Hawaii, March 16 - 22, 2007

13. "Radioastronomical Remote Sensing of Turbulence and Current Sheets in the Solar Corona," Presented at Sixth International Workshop on Nonlinear Waves and Turbulence in Space Plasmas, Fukuoka, Japan, October 9 - 13, 2006.

14. "Observations of Density Fluctuations Near the Sun Using Radio Scintillations," SHINE (Solar, Heliospheric, and Interplanetary Environment) Workshop, Zermatt, Utah, July 31- August 4, 2006.

15. "Coronal Faraday Rotation: Diagnostics of Current Sheets and MHD Waves," presented at International Colloquium on Scintillation and Scattering in Radio Astronomy, Pushchino, Russia, June 19-23, 2006

16. "The Propagation Distances and Sources of Interstellar Turbulence," presented at a workshop on Small Scale Ionized and Neutral Structures in the Diffuse Ionized Medium, held at Socorro, New Mexico, May 21- 24, 2006

17. "Estimates of the Strength and Structure of the Coronal Magnetic Field," presented at the WISER Workshop on Computing in Space and Astrophysical Plasmas, Leuven Belgium, April 18-22, 2005

18. "Radio Astronomy and the Structure of the Interplanetary Medium," presented at the Fall Meeting of the AGU, San Francisco, Dec. 11, 2003

19. "Plasma Turbulence and Transport in the Galaxy," presented at 2002 U.S. Transport Task Force Meeting, Annapolis, Maryland, 3 - 6 April, 2002

20. "The Dissipation of Interstellar MHD Turbulence," presented at 43rd Annual Meeting of the Division of Plasma Physics of the American Physical Society, Long Beach, California, 29 October - 2 November, 2001

21. "The Small Amplitude of Density Turbulence in the Inner Solar Wind," presented at the 4th International Workshop on Nonlinear Waves and Chaos in Space Plasmas, Tromso, Norway, 17-22 June, 2001

22. "Observational Guidance on Wave-Driven Models for Solar Wind Acceleration and Heating," presented at UVCS Science Meeting, Bar Harbor, Maine, 25--28 September, 2000

23. "Observational Evidence for Supernova Remnant Foreshocks," presented at International Space Science Institute, Bern, Switzerland, 15-19 May, 2000

24. "VLBI Phase Scintillations Due to the Solar Wind," presented at National Radio Science Meeting, Boulder, Colorado, 4--8 January, 2000

25. "Turbulence in the Solar Wind and Interstellar Medium: Similarities and Dissimilarities," presented at the minisymposium on plasma turbulence, 41st annual meeting of APS Division of Plasma Physics, Seattle Washington, 15--19 October, 1999

26. "Turbulence in the Diffuse Interstellar Medium," presented at the conference on *The Astrophysics of Galactic Cosmic Rays*, Bern, Switzerland, 18--22 October, 1999

27. "What Radio Astronomers Can Tell Plasma Theorists," presented at *Plasma Turbulence and Energetic Particles in Astrophysics*, Cracow, Poland, September 5--11, 1999

28. "Radio Propagation Studies of Plasma Turbulence in the Interstellar Medium," presented at *International Workshop on Radio Methods for Studying Turbulence*, Urbana, Illinois, August 9--12, 1999

29. "Radio Wave Scintillations and Models of Interstellar Turbulence," 192nd meeting of the American Astronomical Society, San Diego, California, June 7--11, 1998

30. "Small-Scale Structure and Turbulence in the Interstellar Medium," presented at the Second Guillemo Haro Conference on Interstellar Turbulence, Puebla, Mexico, January 12--16, 1998

31. "The Parametric Decay Instability: A Detection and Several Nondetections," presented at International Workshop on Nonlinear Waves and Turbulence in Space Plasmas, Koln, Germany, February 12--15, 1997

32. Three invited lectures at workshop "Vortex and Flux Tubes: Observations, Stability, and Topology," Nice, France, May 19--25, 1996

33. "VLBI Observations of Turbulence in the Inner Solar Wind," presented at IAU Colloquium 154, *Solar and Interplanetary Transients*, Pune, India, January 23--27 1995

34. "Nonlinear Evolution of Solar Wind MHD Waves: Opinions on the Confrontation Between Theory, Simulations, and Measurements," presented at the *International Workshop on Nonlinear Waves and Chaos in Space Plasmas*, Kyoto, Japan, June 13--16 1994

35. "Magnetohydrodynamic Waves from the Orbit of Helios to the Solar Corona," presented at *Research Trends in Plasma Astrophysics*, LaJolla, California, 8--10 November 1993

36. "Plasma Turbulence in Galactic Halos," presented at Workshop on *The Interstellar Medium in Galactic Halos: Current Views*, Space Telescope Institute, Baltimore, Maryland, 11--13 August 1993

37. “The Detection of Coronal Alfvén Waves Via Rotation Measure Fluctuations," presented at URSI national meeting, Boulder, Colorado, 7--11 January 1992

38. “Radio Propagation Experiments and Remote Measurement of Inter-planetary Plasma Turbulence,” presented at the First SOLTIP Symposium, Castle Liblice, Czechoslovakia, 30 September - 5 October 1991

39. “The Evolution of Large-Amplitude MHD Waves Near Quasi-Parallel Shocks in the Solar Wind,” presented at meeting on *Solar Wind*, Goslar, Germany, 16--20 September 1991

40. “Interstellar Plasma Turbulence: Observations and Theory,” presented at the General Assembly of the International Astronomical Union, 26 July - 1 August 1991

41. “VLBI and the Detection of Interstellar Magnetohydrodynamic Waves,” presented at meeting on *Propagation Effects in Space VLBI*, Leningrad, U.S.S.R., 28--30 May 1990

42. “Low Frequency Angular Broadening and Diffuse Interstellar Plasma Turbulence,” presented at Workshop on *Low Frequency Astrophysics from Space*, Crystal City, Virginia 8--9 January 1990

43. “Observations of Diffractive Interstellar Scintillation Phenomena,” presented at meeting on *Radio Wave Scattering in the Interstellar Medium*, San Diego, California, 18--19 January 1988

44. “Nonlinear Wave Development and the Wave-Packet Interaction,” presented at Los Alamos Space/Astrophysics Workshop, Taos, New Mexico, 28 July - 1 August, 1985

45. “Constraints on Galactic Jet Characteristics from Lobe Observations,” presented at meeting on *Jets from Stars and Galaxies*, Toronto, Canada, 24--27 June, 1985

Contributions to Proceedings of Scientific Meetings and Similar Documents

1. S. R. SPANGLER, A. H. SAVAGE, and S. REDFIELD
   Ion-Neutral Collisions in the Interstellar Medium: Wave Damping and Elimination of Collisionless Processes, in “Partially Ionized Plasmas Throughout the Cosmos”, American Institute of Physics Conference Proceedings Volume 1366, V. Florinski, J. Heerikhuisen, G. Zank, D. Gallagher, ed., pp 97-106, 2011

2. S. SPANGLER, M. HAVERKORN, T. INTRATOR, R. KULSRUD, A. LAZARIAN, S. REDFIELD, and E. ZWEIBEL, “ Plasma Physics Processes of the Interstellar Medium”, white paper submitted to the ASTRO2010 Decadal Survey (astro-ph:0902.4181), 2009

3. S. R. SPANGLER and CATHERINE A. WHITING
   Radio Remote Sensing of the Corona and the Solar Wind
   in *Proceedings of IAU 257, Universal Heliophysical Processes*,
   N. Gopalswamy and D. Webb, ed., Cambridge University Press, pp 529-541, 2009

4. S. R. SPANGLER
   Radiowave Scattering Observations of Turbulence in the Solar Wind and the Interstellar Medium, in *AIP Conference Proceedings*, Vol. 932, proceedings of 6th International Astrophysics Conference, D. Shaik and G. P. Zank, ed., p. 85, 2007

5. S. R. SPANGLER and E. VAZQUEZ-SEMADINI
Small Ionized and Neutral Structures: A Theoretical Review, in "SINS - Small Ionized and Neutral Structures in the Diffuse Interstellar Medium," *Astronomical Society of the Pacific Conference Proceedings*, Vol. 365, M. Haverkorn and W. M. Goss, ed., p. 347, 2007

6. S. R. SPANGLER
The Propagation Distance and Sources of Interstellar Turbulence, in "SINS - Small Ionized and Neutral Structures in the Diffuse Interstellar Medium," *Astronomical Society of the Pacific Conference Proceedings*, Vol. 365, M. Haverkorn and W. M. Goss, ed., p. 307, 2007

7. P. S. KORTENKAMP, S. R. SPANGLER and R. L. MUTEL
Probing the Solar Corona Using the VLBA
in *Future Directions in High Resolution Astronomy:the10th Anniversary of the VLBA*, Astronomical Society of the Pacific Conference Series, Vol. 340, edited by J. D. Romney and M. S. Reid, p. 440, 2005

8. S. R. SPANGLER
Conference Summary: Theoretical Issues
in *Plasma Turbulence and Energetic Particles in Astrophysics*,
edited by R. Schlickeiser and M. Ostrowski
[Jagellonian University Press, Cracow], pp. 388-390, 1999

9. S. R. SPANGLER
Interstellar Turbulence: What Radio Astronomers Can Tell Plasma Theorists,
in *Plasma Turbulence and Energetic Particles in Astrophysics*,
edited by R. Schlickeiser and M. Ostrowski
[Jagellonian University Press, Cracow], pp. 1—4, 1999

10. S. R. SPANGLER
Small-Scale Structure and Turbulence in the Interstellar Medium
in *Interstellar Turbulence*, edited by J. Franco and A. Carraminana
[Oxford: Cambridge University Press], p. 41, 1998

11. S. R. SPANGLER
Nonlinear Evolution of MHD Waves at the Earth's Bow Shock: Opinions on the Confrontation Between Theory, Simulations, and Measurements
in *Nonlinear Waves and Chaos in Space Plasmas*, edited by T. Hada and K. Matsumoto
Tokyo: Terra Scientific Publ. Co., 1997, pp. 171--224

12. S. R. SPANGLER, T. SAKURAI, W. A. COLES, R. R. GRALL, and J. K. HARMON
Radio Observations of Turbulence in the Inner Solar Wind
Solar Wind Eight, Conference Proceedings 382
[New York: American Institute of Physics, 1996, p. 265

13. S. R. SPANGLER and J. M. CORDES
The Turbulence Environment of Stellar Superbubbles and
the Implications for Fermi Acceleration
Proceedings of *XXIV Cosmic Ray Conference,* 1995

14. S. R. SPANGLER and T. SAKURAI
A Radioastronomical Technique for Measuring Spatial and

Temporal Variations of Coronal Alfven Waves
Spatio-Temporal Analysis for Resolving Plasma Turbulence (START)
ESA Conference, ESA WPP-047, 1993, p. 153

15. S. R. SPANGLER
VLBI and the Detection of Interstellar Magnetohydrodynamic Waves
in *Propagation Effects in Space VLBI*, edited by Leonid Gurvits,
Distributed by National Astronomy and Ionosphere Center, 1993, p. 57

16. J. A. LECKBAND and S. R. SPANGLER
Plasma Density Fluctuations as Indicators of Wave Processes in Solar Wind MHD Waves
Solar Wind **7**, edited by E. Marsch and R. Schwenn, [Oxford: Pergamon, 1992], p. 473

17. S. R. SPANGLER
The Evolution of Large-Amplitude MHD Waves near Quasi-Parallel Shocks in the Solar Wind
Solar Wind **7**, edited by E. Marsch and R. Schwenn, [Oxford: Pergamon, 1992], p. 539

18. S. R. SPANGLER
Radio Propagation Experiments and Remote Measurement of Interplanetary Plasma Turbulence
Proceedings of the First SOLTIP Symposium, Vol. 1, edited by S. Fischer and M. Vandas
[Prague: Czechoslovakia Academy of Sciences, 1992], p. 228

19. S. R. SPANGLER and J. W. ARMSTRONG
Low Frequency Angular Broadening and Diffuse Interstellar Plasma Turbulence
in *Low Frequency Astrophysics from Space*, edited by W. E. Kassim and K. W. Weiler,
Lecture Notes in Physics, Vol. 362 [Berlin: Springer-Verlag, 1990]

20. S. R. SPANGLER, J. A. LECKBAND, and I. H. CAIRNS
Are Supernova Remnants Quasi-Parallel and Quasi-Perpendicular Accelerators?
Proceedings of the Joint Varenna-Abastumani International School & Workshop on Plasma Astrophysics, Varenna, Italy, 24 Aug. - 3 Sept. 1988
[ESA SP-285, Vol. I, Dec. 1988], pp. 251—254

21. S. R. SPANGLER
Shock-Associated Plasma Density Fluctuations in the Interstellar Medium,
Proceedings of the Joint Varenna-Abastumani International School & Workshop on Plasma Astrophysics, Varenna, Italy, 24 Aug. - 3 Sept. 1988
[ESA SP-285, Vol. I, Dec. 1988], pp. 153—155

22. A. L. FEY, S. R. SPANGLER, and R. L. MUTEL
VLBI Angular Broadening Measurements in the Cygnus Region
in *Radio Wave Scattering in the Interstellar Medium*},
edited by J. M. Cordes, B. J. Rickett, and D. C. Backer
[New York: American Institute of Physics, 1988], p. 190

23. J. M. CORDES, S. R. SPANGLER, J. M. WEISBERG, and T. R. CLIFTON
Galactic Distribution of Electron Density Turbulence
in *Radio Wave Scattering in the Interstellar Medium*,
edited by J. M. Cordes, B. J. Rickett, and D. C. Backer
[New York: American Institute of Physics, 1988], p. 180

24. S. R. SPANGLER and J. M. CORDES
Angular Broadening Measurements of the Sources 1849+005 and 2013+370
in *Radio Wave Scattering in the Interstellar Medium*,
edited by J. M. Cordes, B. J. Rickett, and D. C. Backer
[New York: American Institute of Physics, 1988], p. 117

25. S. R. SPANGLER
Shock-Associated MHD Waves: A Model for Interstellar Density Fluctuations
in *Radio Wave Scattering in the Interstellar Medium*,
edited by J. M. Cordes, B. J. Rickett, and D. C. Backer
[New York: American Institute of Physics, 1988], p. 66

26. S. R. SPANGLER
Observations of Diffractive Interstellar Scintillation Phenomena
in *Radio Wave Scattering in the Interstellar Medium*,
edited by J. M. Cordes, B. J. Rickett, and D. C. Backer
[New York: American Institute of Physics, 1988], p. 32

27. S. SPANGLER, A. FEY, and R. MUTEL
Measurements of Interstellar Scattering in the Cygnus Region
The Impact of VLBI on Astrophysics and Geophysics
Proceedings of IAU Symposium No. 129, edited by J. Moran and
M. Reid [Dordrecht: D. Reidel Publishing Company, 1988], p. 303

28. L. PADRIELLI, R. FANTI, A. FICARRA, L. GREGORINI, F. MANTOVAI,
and S. SPANGLER
The Low Frequency Variability of Extragalactic Radio Sources:
A Relativistic Effect or Galactic Scintillation?
The Impact of VLBI on Astrophysics and Geophysics
Proceedings of IAU Symposium No. 129, edited by J. Moran and
M. Reid [Dordrecht: D. Reidel Publishing Company, 1988], p. 297

29. S. R. SPANGLER
A Radioastronomical Probe of Upstream Turbulence near Supernova Remnants
Collisionless Shocks [Central Research Institute for Physics,
Hungarian Academy of Physics, 1987], p. 221

30. S. R. SPANGLER
Nonlinear Properties of MHD Waves in the Earth's Foreshock
Collisionless Shocks [Central Research Institute for Physics,
Hungarian Academy of Physics, 1987], p. 206

31. R. FANTI, L. GREGORINI, L. PADRIELLI, and S. SPANGLER
The Low Frequency Variability of Extragalactic Radio Sources:
A Relativistic Effect or Galactic Scintillation?
Superluminal Radio Sources, edited by J. Anton Zensus and T. Pearson
[Cambridge University Press, 1987], p. 200

32. STEVEN R. SPANGLER and JAMES P. SHEERIN
Nonlinear Effects and the Limitation of Electron Streaming Instabilities in Astrophysics
Unstable Current Systems and Plasma Instabilities in Astrophysics,

IAU Symposium No. 107, edited by Mukul R. Kundu and Gordon D. Holman [Dordrecht: D. Reidel Publishing Company, 1985], pp. 355--359

33. S. R. SPANGLER
Nonlinear Evolution of Astrophysical Alfven Waves
Proceedings of a Course & Workshop on Plasma Astrophysics
Varenna, Italy, 28 August - 7 September 1984
[European Space Agency SP-207, 1984], pp. 197--200

34. STEVEN R. SPANGLER
Spectral Shapes of Compact Extragalactic Radio Sources
Extragalactic Radio Sources, edited by D. S. Heeschen and C. M. Wade [Dordrecht: D. Reidel, 1982]

Published Technical Reports

1. S.R. SPANGLER, B.M. BERGERUD, and K.M. BEAUCHAMP
Analytic Estimates of the Effect of Plasma Density Fluctuations on HII Density Diagnostics
arXiv: 1910.08466, 2019

2. C.A. WHITING and S.R. SPANGLER
EVLA Measurements Close to the Sun: Elevated System Temperatures
EVLA Memorandum No. 136, 2009

3. S. R. SPANGLER
Correction of VLA K-Band Amplitudes for Atmospheric Attenuation
VLA Scientific Memorandum No. 143, 1982

4. S. R. SPANGLER
Design Considerations for the 327 MHz Feed: The Effect of Beam Ellipticity on Dynamic Range
VLA Scientific Memorandum No. 142, 1982

5. S. R. SPANGLER and K. P. SOWINSKI
An Improved Version of the On-Line Data Checking Algorithm CHKDEF
VLA Computer Memorandum No. 155, 1980

6. J. M. RANKIN, D. B. CAMPBELL, and S. R. SPANGLER
430 MHz Radio Astronomical Polarimetry at Arecibo Observatory
National Astronomy and Ionosphere Report 46, 1975

Service Record for Steven R. Spangler

Departmental Service

- Member, Departmental Colloquium Committee, 2016-2017
- Department Colloquium Chair, 2014
- Member, Departmental Student Recruitment Committee, 2012-2014
- Chair, Promotion and Tenure Committee for Assistant Professor Gregory Howes, 2012
- Member, Departmental Executive Committee, 2007-2009

- Chair, Departmental Student Recruitment Committee, 2005-2007
- Chair, Promotion and Tenure Committee for Assistant Professor Benjamin Chandran
- Member, Space Astronomy faculty search committee, 2003-2004, 2006-2007, 2007-2008
- Member of EO committee, 2002-2004
- Astronomy Coordinator, 1999-2021
- Departmental representative, Hawkeye Visiting Days, inception-present
- Departmental representative, Freshman summer orientation, circa 1993-2009
- Member, astronomy faculty member search committee, 1990, 1997, 1999, 2002, (Chair, 1997)
- Astronomy Coordinator, 1992-1998
- Member, plasma physics faculty search committee, 1993, 2008, 2012
- Chair, EO committee, circa 1989
- Colloquium chair, 1986-87, fall 2009

Collegiate Service

- Organizer and speaker, University of Iowa program to observe the *International Year of Astronomy* with a series of public lectures, 2009
- Member of P&T and graduate student committees, Department of Geosciences, 2003-present
- Member of CLAS scholarship committee, 2000-2003 (Chair, AY 2002-3)
- Member of GER accreditation committee, Historical Perspectives, circa 1993.
- Member, Liberal Arts Faculty Assembly, circa 1995-97.
- Member and Chair, internal review committee for Department of Statistics and Actuarial Science, 1989

University Service

- Speaker at "Sonia Kovalesky Day" (program to interest high school girls in science, engineering, and mathematics), April 5, 2014
- Participated in Departmental and University exhibit at Iowa State Fair, August 2005
- Member, Regents' Task Force on Scholarly Communication, 2000-2002
- Member, search committee for University head librarian, 1999-2000

Professional Service

- Member of Fellowship Committee, Division of Plasma Physics of American Physical Society, 2014.
- Member of Scientific Organizing Committee, International Astronomical Union Focus Meeting "Scale Free Processes in Astrophysics". Meeting held in 2015.
- Lecturer in "Distinguished Lecturer Program", Division of Plasma Physics of American Physical Society, 2012-2014

- Member of Program Committee, 53rd Annual Meeting of Division of Plasma Physics, American Physical Society
- Member of advisory council for Basic and Applied Plasma Science Facility, University of California at Los Angeles, 2008 – present
- Member of Program Committee, 2009 April Meeting of the American Physical Society
- Panel Member, National Science Foundation, Division of Atmospheric Sciences, proposal review committee, Fall 2008
- Member of Program Committee, 8th International Workshop on Nonlinear Waves and Turbulence, 2010
- Member of Program Committee, 2008 April Meeting of American Physical Society
- Chair, Topical Group on Plasma Astrophysics of the American Physical Society, 2007-2008
- Member of Program Committee, 6th International Workshop on Nonlinear Waves and Turbulence, Fukuoka, Japan, October 10-13, 2006
- Co-convenor and organizer, Topical Session on Plasma Astrophysics, May 2004 meeting of the American Astronomical Society, Denver, Colorado
- Secretary-Treasurer, Topical Group on Plasma Astrophysics of the American Physical Society, 1999-2005
- Observing proposal referee, National Radio Astronomy Observatory, 2000-2003
- Referee for numerous scientific journals in physics and astronomy, such as The Astrophysical Journal, Astronomy and Astrophysics, The Physics of Plasmas, Journal of Geophysical Research, Physical Review, etc, 1974-present.
- Proposal evaluation committee member, NASA and the National Science Foundation, 1986-2000.
- American Geophysical Union, Editor's Citation for Excellence in Refereeing, 1999
- Convenor and organizer, minisymposium on the interaction of ionized and neutral gases in astrophysics, Division of Plasma Physics Meeting, Orlando Florida, November 2002.
- Member, astrophysics organizing committee, International Conference on Plasma Physics, Sydney, Austalia, July 2002.
- Member, organizing committee, session on the Local Interstellar Medium, COSPAR meeting, Houston, Texas, October 2002.
- Member of evaluation committee, Smithsonian Institution Scholarly Studies Program,1989-1996.

Community Service

- Guest Speaker at Iowa Star Party, Coon Rapids, Iowa, August 25-29, 2022: "New Views of the Interstellar Medium"
- Speaker at Noon Lion's Club of Cedar Rapids, November 6, 2014: "Our Sun: A Star in the Solar System"

- Speaker at Iowa Academy of Sciences 7th Annual Speaker Series at Saylorville Lake Visitor Center, July 19, 2014: "Our Sun: A Star in the Solar System"
- Organized and led public viewing event for Transit of Venus, Van Allen Hall, June 2012
- Member of Board of Directors, "The Eastern Iowa Observatory and Learning Center" project, organized by Cedar Amateur Astronomers
- Speaker at Popular Astronomy Club, Quad Cities, November 2003, November 2004
- Speaker at Cedar Amateur Astronomers, 1990-present

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