J.B. PENDRY - CURRICULUM VITAE
at 2 January 2017

Address: Department of Physics, Imperial College London, Prince Consort Road, London SW7 2AZ, UK
telephone: 020-7594-7606
email: j.pendry@imperial.ac.uk

Date of Birth:	4th July, 1943
Degrees:	1965 BA, Cantab (Physics)
	1969 MA, PhD,Cantab (Solid State Theory)
1962-65	Scholar of Downing College, Cambridge
1965-66	Part III Mathematics - postgraduate course
1966-69	Research student, Cavendish Laboratory, Cambridge
1969-73	Research Fellowship in Physics, Downing College, Cambridge
1969-71	ICI post-doctoral Fellow
1972-73	Member of Technical Staff in the Theoretical Physics Department, Bell Laboratories, Murray Hill, USA
1973-75	Senior Assistant in Research, Cavendish Laboratory, Cambridge
1973-75	Fellow in Physics and Praelector, Downing College
1975-81	Senior Principal Scientific Officer: Head of Theory Group, SERC Daresbury Laboratory
1981-	Professor of Theoretical Solid State Physics, Imperial College of Science and Technology, and Head of the Condensed Matter Theory Group
1983-85	Head of Experimental Solid State Physics Group
1984	FRS
1984	F. Inst. P.
1984-92	Associate Head of Physics Department
1992-93	Member, SERC Science Board, SERC Nuclear Physics Board
1992-94	Member of Council, Royal Society.
1993-96	Dean, Royal College of Science
1996-2002	Editor, Proceedings A of the Royal Society
1996-97	Leverhulme Trust Senior Research Fellowship
1997-1998	EPSRC Senior Research 5-Year Fellowship (resigned April 1998)
1998-2001	Head of Physics Department, Imperial College London
1998-2002	Member of Particle Physics and Astronomy Research Council
1998-2000	Commonwealth Scholarships Commissioner
2001-2002	Principal, Faculty of Physical Sciences, Imperial College London
2003-2008	EPSRC Senior Research 5-Year Fellowship
2004	Knight Bachelor (for services to science)
2005	Honorary Fellow, Downing College Cambridge
2005-2008	Chairman Physics sub panel of RAE 2008
2005	Fellow Optical Society of America
2005	Decartes prize for "Extending Electromagnetism through Novel Artificial Materials"
2006	Royal Medal
2006-	Chairman, Advisory Committee of nanoGUNE, San Sebastian
2007-2011	Member of Council, Institute of Physics
2007-2011	Chairman, Institute of Physics Publishing
2008-2011	Member, External Advisory board, Metamaterial Grand Challenge, Sandia National Laboratory
2009-2012	Chairman, Cockcroft Institute Board
2009-2012	Member, Core Committee of the MPI for the Science of Light, Erlangen

2011-	Visiting Professor, Institute of Advanced Studies, Hong Kong University of Science & Technology
2012-	Fellow American Academy of Arts and Sciences
2013-	Foreign Associate US National Academy of Sciences
2014-	Foreign Member Norwegian Academy of Sciences
2015	Lorentz Professorship – Leiden University
2015	Fellow of the American Physical Society
2016	Honorary Fellow Institute of Physics

PRIZES MEDALS AND AWARDS

1994	British Vacuum Council Prize and Medal
1996	Institute of Physics Dirac Medal and Prize
1996	International Surface Structure Prize
2003	Appleton Lecture
2004	Celsius Lecture, University of Uppsala, Sweden
2005	Royal Society Bakerian Lecture
2005	Larmor Lecture (Belfast)
2005	Fröhlich Lecture (Liverpool)
2005	EU Descartes prize for "Extending Electromagnetism through Novel Artificial Materials"
2006	Royal Medal
2009	Centenary Kelvin lecture – Institute of Engineering and Technology
2009	Fellow American Association for the Advancement of Science
2009	UNESCO-Niels Bohr gold medal
2009	doctorate 'honoris causa' Universität Erlangen Nürnberg
2010	W.E Lamb Medal for Laser Science and Quantum Optics
2010	Doctor of Science 'honoris causa' Duke University
2010	Doctor of Science 'honoris causa' Hong Kong Baptist University
2012	Fellow of the American Academy of Arts and Sciences
2012	Honorary Professor Nanjing South Eastern University
2012	Fred Kavli Distinguished Lectureship in Nanoscience at the 2012 MRS Fall Meeting
2013	APS McGroddy Prize – joint with David Smith and Costas Soukoulis
2013	European Materials Research Society 30th Anniversary Prize
2013	Newton Medal of the Institute of Physics
2013	Julius Springer Prize for Applied Physics
2014	Kavli prize for nanotechnology joint with Thomas Ebbesen & Stefan Hell
2015	EPS Quantum Electronics and Optics Prize for Fundamental Aspects
2015	Doctor of Science 'honoris causa' Hong Kong University of Science and Technology
2016	Dan David Prize for nanotechnology joint with Paul Alivosatos and Chad Mirkin
2016	2016 Ugo Fano Gold Medal
2017	International Union Of Radio Science Dellinger Gold Medal

J.B. Pendry - Major Scientific Achievements

Summary

John Pendry is a condensed matter theorist. He has worked at the Blackett Laboratory, Imperial College London, since 1981. He began his career in the Cavendish Laboratory, Cambridge, followed by six years at the Daresbury Laboratory where he headed the theoretical group. He has worked extensively on electronic and structural properties of surfaces developing the theory of low energy diffraction and of electronic surface states. Another interest is transport in disordered systems where he produced a complete theory of the statistics of transport in one dimensional systems.

In 1992 he turned his attention to photonic materials and developed some of the first computer codes capable of handling these novel materials. This interest led to his present research which concerns the remarkable electromagnetic properties of 'metamaterials' whose properties owe more to their micro-structure than to the constituent materials. These made accessible completely novel materials with properties not found in nature. Successively metamaterials with negative electrical permittivity, then with negative magnetic permeability were designed and constructed. These designs were subsequently the basis for the first material with a negative refractive index, a property predicted 40 years ago by a Russian scientist, but unrealised because of the absence of suitable materials. He went on to explore the surface excitations of the new negative materials and showed that these were part of the surface plasmon excitations familiar in metals. This project culminated in the proposal for a 'perfect lens' whose resolution is unlimited by wavelength.

In collaboration with a team of scientists at Duke University, he has developed the concept of 'transformation optics', or TO for short, which prescribes how electromagnetic lines of force can be manipulated at will. This enabled a proposed recipe for a cloak that can hide an arbitrary object from electromagnetic fields. Metamaterials give the possibility of building such a cloak and a version of this design working at radar frequencies and exploiting the properties of metamaterials has now been implemented experimentally by the Duke team. Optical versions of the cloak have now been constructed.

Electromagnetism provides us with some of the most powerful tools in science, encompassing lasers, optical microscopes, MRI scanners, radar and a host of other techniques too numerous to mention. To understand and develop the technology requires more than a set of formal equations. Scientists and engineers have to form a vivid picture within their heads that fires their imaginations and enables intuition to play a full role in the process of invention. It is to this end that transformation optics has been developed exploiting Faraday's picture of electric and magnetic fields as lines of force which can be manipulated by the electrical permittivity and magnetic permeability of surrounding materials. TO says what has to be done to place the lines of force where we want them to be.

His latest research applies TO to the study of surface plasmons. The surfaces of metals such as gold and silver support density oscillations of the electrons, much like waves on a sea. These can couple to external radiation, but have a much shorter wavelength. The plasmonic excitations are greatly influenced by the shape of the surface and in particular by any singularities such as sharp corners, touching surfaces, or other rough features, which tend to attract very high field intensities: they act as harvesting points for any incident radiation. By applying transformations to simple structures, such as plasmonic waveguides consisting of two parallel sheets of silver, many of the singular structures can be generated through a singular transformation and their spectra understood through the spectrum of the original simple waveguide. Thus apparently diverse structures such as sharp edges, points, nearly touching spheres, can be shown to have a common origin and can in many

cases be treated analytically. This deep understanding enables further properties of these structures to be elucidated such as the dispersion forces acting at short range between surfaces that are otherwise out of physical contact.

List of Achievements – inverse chronological order

- Application of the transformation optics technique to surface plasmons, relating the many apparently diverse phenomena to a common origin from which the structures in question can be generated by a transformation.
- Proposal of the concept of an electromagnetic cloak [299, 301]
- Proposal of the concept of a lens [254] which is unrestricted by the diffraction limit and therefore capable of sub wavelength imaging.
- Inventor of the 'transformation optics' technique for control of electromagnetic fields
- Design of novel meta materials in which electromagnetic properties depend on the structure rather than on the materials of which the structure is built [225, 239, 248]. For example: structures with effectively negative ε and negative μ have been widely adopted and played a key role in building the first negatively refracting meta material. Through metamaterials we have access to properties not found in nature and therefore never previously explored experimentally.
- Exploration of the consequences of near-field electromagnetic interactions for heat conduction across a sub wavelength gap between two solids [249], and for frictional effects associated with the Van der Walls forces [231, 238].
- Development of the first computational technique for calculating scattering of electromagnetic radiation in dispersive photonic materials [192, 197, 213, 218], such as those composed of metals. This methodology, based on transfer matrices, has been widely adopted in the community and the codes developed in his group extensively distributed.
- Application of group theoretical methods to transport in disordered systems giving a complete solution of the general scattering problem in 1D and gave rise to advanced techniques for treating higher dimensions [207]. A key result was the prediction that in all dimensions the channels for transport show a bimodal distribution: they are either open or closed in the limit of large systems [187].
- The theory of LEED was further extended in the 1980's with the introduction of several new concepts: the so called *'Pendry R-factor'* [62] automated and quantified comparison of theory to experiment and is now widely used in surface structure determination. *Tensor LEED,* [119, 155, 156] an accurate approximate method for calculating the LEED spectrum of complex surface structures, enabled surface structures of previously impossible complexity to be determined. *DLEED* [107, 142] developed jointly with the Erlangen group of Mueller and Heinz was a technique for interpreting electron scattering from randomly adsorbed atoms and hence determining their bonding to neighbouring atoms.
- Proposal of the technique of 'inverse photoemission whereby an incident electron beam emits light as it decays into unoccupied states in the vicinity of the surface [65, 72]. The viability of this technique was demonstrated soon afterwards and is now widely used for probing unoccupied electron states at surfaces.

- Seminal contributions in the field of synchrotron radiation during his time at Bell Laboratories and at the Daresbury Laboratory. With Patrick Lee at Bell he developed the first theory for quantitative interpretation of extended Xray absorption fine structure [34]. At Daresbury he published his theory of angle resolved photoemission [39] which remains the standard model in the field.
- Developed with PM Echenique criteria for the existence of electron surface states on metals and of 'Rydberg' surface states [50, 127, 161]. Developed the methodology for computing these states.
- Developed the methodology for computing and interpreting low energy electron diffraction (LEED) from surfaces [13, 14, 15, 16] and with S. Anderson made the first application to determination of atomic coordinates of surface atoms [19, 21]. His 1974 book on LEED endures as a classic.

BOOKS: Low Energy Electron Diffraction, Academic: London (1974).(400pp.)

Surface Crystallographic Information Service, Riedel: Dordrecht (1987) (400pp, with MA van Hove)

LIST OF PAPERS PREPARED FOR PUBLICATION

1. Analytic Properties of Pseudopotentials,
J. Phys. C. **1**, 1065-74 (1968).
2. The Choice of Muffin Tin Pseudopotential (with G. Capart),
J. Phys. C. **2**, 841-51 (1969).
3. Calculation of the Potential and Inner Potential,
J. Phys. C. **2**, 1215-21 (1969).
4. Calculation of Reflected Intensities,
J. Phys. C. **2**, 2273-82 (1969).
5. The Simplifying Effect of Inelastic Scattering,
J. Phys. C. **2**, 2283-9 (1969).
6. Low q-phonons and the Widths of LEED Peaks (with V. Heine),
Phys. Rev. Lett. **22**, 1003-5 (1969).
7. Complex Band Structure in the Presence of Bound States and Resonances (with F. Forstmann),
J. Phys. C. **3**, 59-69 (1970).
8. Surface States on d-Band Metals (with F. Forstmann),
Zeitschrift fur Physik **235**, 75-84 (1970).
9. Electron Correlation at Metallic Densities I: Formalism,
J. Phys. C. **3**, 1711-17 (1970).
10. The Cancellation Theorem in Pseudopotential Theory,
J. Phys. C. **4**, 427-34 (1971).
11. Crystalline Xenon - A Kinematic LEED Spectrum (with A. Ignatievs and T.N. Rhodin),
Phys. Rev. Lett. **26**, 189-91 (1971).
12. LEED Spectra Study of Temperature Effects in Crystalline Xenon Surfaces (with A. Ignatievs, T.N. Rhodin and B.I. Lundqvist),
Solid State Comm. **9**, 1851-5 (1971).
13. Ion-Core Scattering and LEED-I,
J. Phys. C. **4**, 2501-13 (1971).
14. Ion-Core Scattering and LEED-II,
J. Phys. C. **4**, 2514-23 (1971).
15. Fast Perturbation Schemes and LEED Spectra,
J. Phys. C. **4**, 3095-106 (1971).
16. New Perturbation Theory for LEED Intensities,
Phys. Rev. Lett. **27**, 856-9 (1971).
17. The Band Structure Approach to LEED (published as the *proceedings of the International Summer School on Surface Structure of Solids, Smolenice, Czechoslovakia* (1971).

18. Theory of Averaged LEED Data,
J. Phys. C. **5**, 2567-78 (1972).

19. Surface Structures from LEED (with S. Andersson),
J. Phys. C. **5**, 241-5 (1972).

20. The Electronic Density of States at Transition Metal Surfaces (with R. Haydock, V. Heine and M.J. Kelly),
Phys. Rev. Lett., **29**, 868-71 (1972).

21 LEED Intensity Measurements and Surface Structures (with S.Andersson),
J. Phys. C. **6**, 601-20 (1973).

22. Determination of Atomic Positions in the C(2x2) Oxygen Structure on a Nickel (001) Surface by a Dynamical LEED Method (with Andersson, Kasemo and Van Hove),
Phys. Rev. Lett. **31**, 595-8 (1973).

23. Existance of Generalized Surface States (with S.J. Gurman),
Phys. Rev. Lett., **31**, 637-9 (1973).

24. Electron Correlation at Metallic Densities II: Calculations of the Correlation Coefficient (with T.P. Fishlock),
J. Phys. C. **6**, 1909-25 (1973).

25. Layer Method for Band Structure of Layer Compounds (with K. Wood),
Phys. Rev. Lett. **31**, 1400-3 (1973).

26. Inelastic Scattering of Low Energy Electrons by Tight Binding Electrons (with B.S. Ing),
J. Phys. C. **8**, 1087-98 (1975).

27. A Study of Ion-Core Potentials used in LEED Diffraction Calculations, (with S.Y. Tong),
Phys. Rev. (1975).

28. Multiple Coincidences in Surface Structure Determination (with S. Andersson),
Solid State Comm. **16**, 563-6 (1975).

29. Na and S. Bilayers on a Ni(001) Surface (with S. Andersson),
J. Phys. C. **9**, 2721-31 (1975).

30. Theory of Surface States I: General Criteria for their Existence (with S.J. Gurman),
Surface Science **49**, 87-105 (1975).

31. The Absorption Profile at Surfaces (with P.M. Echenique),
J. Phys. C. **8**, 2936-42 (1975).

32. The Chain Method for Electron Scattering in Lattices (with P. Gard),
J. Phys. C. **8**, 2048-58 (1975).

33. Angular Dependence of Electron Emission from Surfaces,
J. Phys. C. **8**, 2413-22 (1975).

34. Theory of EXAFS (with P.A. Lee),
Phys. Rev. **11**, 2795-811 (1975).

35. Ferromagnetic Surface States on Anti-ferromagnetic NiS (with S.J. Gurman),
Surface Science **57**, -50 (1976).

36. Scattering of ^{4}He Atoms from the Surface of Liquid ^{4}He (with P.M. Echenique),
J. Phys. C. **9**, 3183-91 (1976).

37. Theory of the Edwards Experiment (with P.M. Echenique),
Phys. Rev. Lett. **37**, 561-3 (1976).

38. Theory of RHEED (with N. Masud),
J. Phys. C. **9**, 1833-44 (1976).

39. Theory of Photoemission,
Surface Science **57**, 679-705 (1976).

40. Theory of Angular Dependence of Photoemission from Surfaces
(*Daresbury Lab. Conference Proceedings* 1976).

41. Interpretation of EXAFS Spectra (with S.J. Gurman),
Sol. St. Comm., **20**, 287-90 (1976).

42. Energy of Helium Dissolved in Metals (with J. Inglesfield),
Phil. Mag. **34**, 205-15 (1976).

43. Advances in LEED Theory, Invited Paper: *50th Anniversary of Electron Diffraction Meeting*, London (1977): IOP Conference Series.

44. LEED from Na(110) and $Na_2O(110)$ Surfaces (with S.Andersson and P.M. Echenique),
Surface Science **65**, 539-51 (1977).

45. Incomplete Orbitals - New Elements in Ionic Bonding,
J. Phys. C. **10**, 809-24 (1977).

46. MEED Intensity Calculations for Aluminium (110) and (100) Surfaces using the Chain Method (with N. Masud and C.G. Kinniburgh),
J. Phys. C. **10**, 1-10 (1977).

47. Calculation of Photoemission Spectra for Copper (with D.J. Titterington)
Comm. on Phys., **2**, 31-5 (1977).

48. The Phase Problem in LEED (with C.G. Kinniburgh),
J. Phys. C. **11**, 2415-35 (1978).

49. Structures of CO adsorbed on Ni(100) (with S. Andersson),
Surface Science **71**, 75-86 (1978).

50. The Existence and Detection of Rydberg States at Surfaces (with P.M. Echenique),
J. Phys. C., **11**, 2065-75 (1978).

51. Parametrised, Separable Potential for Band Structure Calculations (with I.D. Moore),
J. Phys. C. **11**, 2939-59 (1978).

52. Electron Emission from Solids, Chapter IV in *Photoemission from Surfaces*, eds. B. Feuerbacher, B. Fitton and R.F. Willis (Wiley) (1978).

53. Photoemission from Transition Metal Surfaces (with J.F.L.Hopkinson),
J. Phys. F. **8**, 1009-17 (1978).

54. Theory of Photoemission (with J.F.L. Hopkinson),
Journal de Physique (France) Colloque **C4**, 142-8 (1978).

55. Theory of Spin Polarised Photoemission (with I.D. Moore),
J. Phys. C. **11**, 4615-22 (1978).

56. Atomic Origin of Structure in EXAFS Experiments (with B.W. Holland et al.),
J. Phys. C. **11**, 633-42 (1978).

57. The Application of the Chain Method to Electron Emission (with R.N. Lindsay),
J. Phys. C. **11**, 1031-4 (1978).

58. Theory of Secondary Electron Emission (with R. Feder),
Sol. St. Comm. **26**, 519-21 (1978).

59. Structure of CO adsorbed on Cu(100) and Ni(100) (with S. Andersson),
Phys. Rev. Lett., **43**, 363-6 (1979).

60. Determination of Adsorbate Geometries from Intramolecular Scattering in Deep-Core-Level X-Ray photoemission; CO on Ni(001), (with C.S. Fadley et al.),
Phys. Rev. Lett. **42**, 1545-8 (1979).

61. Angle Resolved Core Level XPS from Copper Single Crystals (with R.N. Lindsay and C.G. Kinniburgh),
J. El. Spec. and Rel. Phenomena, **15**, 157-63 (1979).

62. Reliability Factors for LEED Calculations,
J. Phys. C., **13**, 934-44 (1980).

63. The Structure of C(2x2) CO Adsorbed on Copper and Nickel (001) Surfaces (with S. Andersson),
J. Phys. C. **13**, 3547-61 (1980).

64. Calculation of Photoemission Spectra for Surfaces of Solids (with J.F.L. Hopkinson and D.J. Titterington),
Comp. Phys. Comm. **19**, 69-92 (1980).

65. New Probe for Unoccupied Bands at Surfaces,
Phys. Rev. Lett. **45**, 1356-8 (1980).

66. The Properties of Helium Atoms and Positrons as Impurities in Metals,
Radiation Effects **53**, 105-10 (1980).

67. Theory of Positrons at Surfaces,
J. Phys. C. **13**, 1159-74 (1980).

68. The Electronic Structure of Liquids,
J. Phys. C. **13**, 3357-68 (1980).

69. A Generalised Friedel Sum Rule,
J. Phys. C. **14**, 1137-43 (1981).

70. Towards the Ultimate LEED Theory, Proc. *IBM LEED Theory Conference*, ed PM Marcus, Plenum (1981).

71. Adsorbate Induced Contracted Domain Structure: N/W (001) (with K. Griffiths et al.),
Phys. Rev. Lett. **46**, 1584-7 (1981).

72. Theory of Inverse Photoemission,
J. Phys. C. **14**, 1381-91 (1981).

73. Electronic Properties of Surfaces, in *Emission and Scattering Techniques* ed P Day, Reidel: Dordrecht (1981)

74. On the Temperature Dependence in Photoemission from Metal Surfaces (with C.G. Larsson),
J. Phys. C. **14**, 3089-97 (1981).

75. XANES: Determination of Bond Angles and Multi Atom Correlations in Ordered and Disordered Systems (with P.J. Durham),
Sol. St. Comm. **38**, 159-62 (1981).

76. EELS: Calculation of the Impact Scattering from W (100) P(1x1)H, (with G.C. Aers et al.)
J. Phys. C. **14**, 3995-4007 (1981).

77. EELS: Calculation of the Impact Scattering Contribution to EELS (with G.C. Aers),
Comp. Phys. Comm., **25**, 389-416 (1982).

78. LEED Structure Analysis of N_2 and CO(√2x√2) R45^o structures on W(100) (with K. Griffiths et al.),
J. Phys. C. **15**, 4921-31 (1982).

79. Calculation of X-Ray Absorption Near Edge Structure, XANES (with P.J. Durham et al.),
Comp. Phys. Comm., **25**, 193-205 (1982).

80. Multiple Scattering Resonances and Structural Effects in the XANES of Fe^{II} and Fe^{III} hexacyanide complexes (with A. Bianconi et al.),
Phys. Rev. **26** 6502-8 (1982).

81. XANES and the Determination of Local Atomic Arrangements at Surfaces (with P.J. Durham and D. Norman),
J. Vac. Sci. Tech. **20**, 665-7 (1982).

82. The Self Energy of a Positron in an Electron Fermi Sea.
J. Phys. C. **15**, 3725-32 (1982).

83. The Evolution of Waves in Disordered Media,
J. Phys. C. **15**, 3493-511 (1982).

84. 1D Localisation and the Symmetric Group,
J. Phys. C. **15**, 4821-34 (1982).

85. Off Diagonal Disorder and 1D Localisation,
J. Phys. C. **15**, 5773-8 (1982).

86. New Perspectives in Surface Crystallography
in: *New Horizons of Quantum Chemstry* ed. P.-O. Löwdin and B. Pullman339-50
Reidel Publishing Company (1983)
J.B. Pendry

87. Determination of Local Atomic Arrangements at Surfaces from Near-Edge X-Ray Absorption Fine Structures: 0 on Ni(100), (with D. Norman, J. Stohr, R. Jaeger and P.J. Durham),
Phys. Rev. Lett. **51**, 2052-5 (1983).

88. Removing the Limits to Accurate Band Structure Determination by Photoemission (with P.D. Loly),
J. Phys. C. **16**, 423-31 (1983).

89. X-Ray Absorption Near Edge Structure.
Comments on Solid State Physics **10**[6] (1983).

90. The Transition Region Between XANES and EXAFS proceedings of *the Frascati Meeting on EXAFS and Near Edge Structure.* Ed. A. Bianconi.

91. X-Ray Absorption Near Edge Structure of CO, CN and Deoxy Haemoglobin (with Durham Hasnain et al.), Durham P, Bianconi A, Congiu-Castellano A, Giovannelli A, Hasnain SS, Incoccia L, Morante S, Pendry JB.*The EMBO Journal* **2** 1441- (1983).

92. Determination of Local Atomic Arrangements at Surfaces, (with Norman et al.)
Phys. Rev. Lett. **51**, 2052-5 (1983).

93. The Scatttering of Positrons at Surfaces: in Proc. of the International School of Physics "Enrico Fermi" Course LXXXIII on *Positron Solid-State Physics* ed W Brandt and A Dupasquier, North Holland: Amsterdam (1983).

94. Quantum Limits to the Flow of Information and Entropy,
J. Phys. A. **16**, 2161-71 (1983).

95. The Quantisation of Charge Transport in Ionic Systems,
J. Phys. C. **17**, 1269-79 (1984).

96. SEXAFS Without X-rays (with D.K. Saldin),
Surface Science **145**, 33-47 (1984).

97. Interpretation of Diffuse LEED Intensities (with D.K. Saldin, M.A. van Hove and G.A. Somorjai),
Phys Rev **B31**, 1216-9 (1985).

98. Metal Support Interactions in Heterogeneous Catalysis (with S.R. Tennison)
Surface Science **138**, 84-94 (1984).

99. The Statistics of One-Dimensional Resistances (with P.D. Kirkman),
J. Phys. C. **17**, 4327-44 (1984).

100. A Transfer Matrix Approach to Localisation in 3D,
J. Phys. C. **17**, 5317-36 (1984).

101. The Statistics of the Conductance of One-Dimensional Disordered Chains (with P.D. Kirkman),
J. Phys. C. **17**, 5707-28 (1984).

102. The Bandwidth of Disordered 1D Systems (with P.D.Kirkman),
J. Phys. C. **17**, 6711-22 (1984).

103. LEED, XANES and the Structure of Disordered Surfaces, in *The Structure of Surfaces* eds MA van Hove and SY Tong, Springer-Verlag: Berlin (1985).

104. Multiple Scattering Theory of Diffuse LEED from Vacancies,(with P.J. Rous)
Surface Science **155**, 241-53 (1985).

105. The Structure of Organic Adsorbates from Elastic Diffuse LEED in *The Structure of Surfaces* eds MA van Hove and SY Tong, Springer-Verlag: Berlin (1985).

106. The Cluster Approach to LEED Calculations (with DK Saldin)
Surface Science **162** 941-4 (1985).

107. Diffuse LEED and Surface Crystallography (with K Heinz and DK Saldin)
Phys. Rev. Lett. **55** 2312-5 (1985).

108. Influence of Poisons and Promotors on Local Bonding of CO to Ni(100) (with JM MacLaren, DD Vvedensky and RW Joyner)
Surface Science **162** 322-8 (1985).

109. Calculation of Photoelectron Spectra for TiC(111) and WC(0001) (with CG Larsson and LI Johansson),
Surf Sci **162** 19-24 (1985).

110. Fast Xanes Perturbation Schemes (with DD Vvedensky)
Surface Science **152/153** 33-7 (1985).

111. XANES and the Determination of Bond Angles
J. de Physique Colloque **C9** supplement au #12, Tome 46, decembre (1985).

112. Multi Atom Correlations in X-ray Absorption Fine Structure (with DD Vvedensky)
Surface Science **162** 903-8 (1985).

113. Azimuthal and Polar-Angle Dependence in XANES of Low Symmetry Adsorption Sites (with DD Vvedensky and DK Saldin)
Surface Science **162** 909-12 (1985).

114. XANES and Diffuse LEED for Atoms amd Complex Molecules on Surfaces (with DD Vvedensky and DK Saldin)
Surface Science **156** 845-50 (1985).

115. Comment on "Experimental Study of Multiple Scattering in XANES"
Phys. Rev. Lett. **54** 2725 (1985).

116. Non-Equilibrium Noise in Low Dimensional Systems (with P.D.Kirkman)
J. Phys. C. **19** 207-20 (1985).

117. Diffuse LEED from Simple Stepped Surfaces (with PJ Rous)
Surface Science **173** 1-19 (1986).

118. Calculation of Elastic Diffuse LEED Intensities from Disordered Adsorbates (with DK Saldin)
Comp. Phys. Comm. **42** 399-415 (1986).

119. Tensor LEED: A Technique for High Speed Surface Structure Determination (with PJ Rous)
Phys. Rev. Lett. **57** 2951-4 (1986).

120. On the Effective Mass of Electrons at Surfaces(with CG Larsson and PM Echenique)
Surface Science **166** 57-68 (1986).

121. Poisoning of the Methanation Reaction on the Ni(100) surface: Theoretical Calculations Compared with the Results of Goodman et al (with JM MacLaren, RW Joyner and P Meehan)
Applied Catalysis **25** 9-17 (1986).

122. The Role of Adatom Geometry in the Strength and Range of Catalyst Poisoning (with JM MacLaren and RW Joyner)
Surface Science **165** L80-4 (1986).

123. Theoretical Aspects of the Nature of the Surface Chemical Bond,
Phil. Trans. Roy. Soc. **A318** 121-5 (1986).

124. Electronic Response and Poisoning of Catalyst Reactions (with JM MacLaren DD Vvedensky and RW Joyner),
Journal of Catalysis **110** 243-248 (1986).

125. The Influence of S on the Local Electronic Structure of Ni and Rh(111) Surfaces - Implications in Heterogeneous Catalysis (with JM MacLaren and RW Joyner)
Surface Science **178**, 856-64 (1986).

126. Electron-Hole Contributions to the Effective Mass of Electrons at Surfaces
Surface Science **166** 69-74 (1986)

127. Images States at Metal Surfaces (with PM Echenique)
J. Phys. C **19** 5437-51 (1986)

128. An Update of DLXANES: the Calculation of X-ray Absorption Near Edge Structure (with DD Vvedensky and DK Saldin)
Comp. Phys. Comm. **40** 421-40 (1986).

129. Structure of C(2X2)O on Cu(100) from XANES (with DD Vvedensky, U Dobler and K Baberschke),
Phys Rev Rapid Comm **B35** 7756-9 (1987).

130. Critical Exponents in Localisation Theory
J. Phys. C **19** 3855-62 (1986).

131. Electrons at Disordered Surfaces and 1/f noise (with E Castano and PD Kirkman), *Phys. Rev. Lett.* **57** 2983-6 (1986).

132. Phonon Scattering in Diffuse LEED (with PL d'Andres & PJ Rous) *Surface Science* **193** 1-9 (1987).

133. Comparison of the Quasidynamical and Tensor LEED Approximation for LEED Intensity Spectra from a Reconstructed Surface (with N Bickel et al) *Proceedings of the ICSOS II conference: Amsterdam* 1987, Springer Verlag (1987).

134. Calculation of the Renormalised Electron Scattering Matrix of a Molecule Adsorbed on a Surface (with DK Saldin) *Comp. Phys. Comm.* **46** 129-40 (1987).

135. Catalytic Implications of Local Electronic Interactions between Carbon Monoxide and Coadsorbed Promotors of Nickel Surfaces,(with JM MacLaren, DD Vvedensky and RW Joyner), *J. Chem. Soc. Far. Trans.* **83** 1945-62 (1987).

136. A Method of Estimating the Minimum Amount of Material Required to Poison or Promote a Supported Metal Catalyst. (with RW Joyner) *J. Catalysis* **1**, 1-6 (1987).

137. Quasi- Extended States in Strongly Disordered Systems, *J. Phys. C*, **20** 733-42 (1987).

138. Non-Equilibrium Noise in Localised Systems, *Physica Scripta,* **T14** 62-4 (1987).

139. Low Energy Electron Diffraction - lectures to the *Spring College in Condensed Matter Physics at Trieste*, 1988 Plenum (1988).

140. A Disordered Model for the W(100) 1X1 Surface (with K Heinz et al) *Surface Science* **193**, L1-L6 (1988).

141. Adsorption and Reaction of CO_2 on Ni(110): Xray Photoemission NEXAFS and DLEED Studies. (with AM Bradshaw et al). *Surface Science* **206** 1-19 (1988).

142. Diffuse Low Energy Electron Diffraction Study of Disordered O/Ni(100) (with U Starke, PL de Andres, DK Saldin, and K Heinz) *Phys. Rev.* **B38** 12277-81 (1988).

143. Stability of Bulk and Surface Carbide Layers and Their Relation to the Fischer-Tropsch Hydrocarbon Synthesis. (with RW Joyner & GR Darling) *Surface Science* **205** 513-22 (1988).

144. Symmetry and Transport in Disordered Systems *IBM Journal of Research and Development,* **32** 137-43 (1988).

145. Localisation in 1D - the General Case (with K Slevin) *J Phys. C* **21** 141-49 (1988).

146. Electronic Properties of Disordered Materials: a Symmetric Group Approach (with E Castano) *J. Phys. C* **21** 4333-55 (1988).

147. Disorder, Symmetry, and Electrons (with E Castano) *Phys. Rev. Lett.* **60** 2093-6 (1988).

148. Electron Localisation, Lyapunov Exponents and the Symmetric Group. (with K Slevin and E Castano)
J. Phys. C **21** 141-9 (1988).

149. Tensor LEED I: A Technique for High Speed Surface Structure Determination by LEED (with PJ Rous)
Comp. Phys. Comm. **54** 137-56 (1989).

150. Tensor LEED II: A Technique for High Speed Surface Structure Determination by LEED (with PJ Rous)
Comp. Phys. Comm. **54** 157-66 (1989).

151. Direct Methods in Surface Crystallography (with K Heinz and W Oed)
Physical Review Letters **61** 2953-6 (1989).

152. The Sensitivity of Diffuse LEED Experiments to Atomic Positions (with P Pinkava)
submitted to *Surface Science* (1989).

153. Direct Methods in Surface Crystallography (with K.Heinz)
Surface Science **230** 137-49 (1990).

154. Direct Methods in Structure Determination by LEED
proceedings of the 12th Werner Brandt Symposium: San Sebastian, Sept 1989.

155. The Theory of Tensor LEED (with PJ Rous)
Surface Science **219** 355-72 (1989).

156. Applications of Tensor LEED (with PJ Rous)
Surface Science **219** 373-94 (1989).

157. Adsorbate Induced Relaxation and Reconstruction of C(2x2) O/Ni(100) - A Reinvestigation by LEED Structure Analysis (with W Oed, H Lindner, U Starke, K Heinz, and K Müller)
Surface Science **224** 179-94 (1989).

158. Adsorbate Induced Reconstruction Phase P(2x2) O/Ni(100) (with W Oed, H Lindner, U Starke, K Heinz, K Müller, DK Saldin, and P de Andres)
Surface Science **225** 242-8 (1990).

159. A Theoretical Study of the Structure and Reactivity of Carbon and Graphite Layers on Nickel Surfaces. (with RW Joyner & GR Darling)
Surface Science **221** 69- (1989).

160. Theoretical Calculations on the Stability of Carbide Layers at Transition Metal Surfaces (with GR Darling anf RW Joyner) in *Structure and Reactivity of Surfaces* eds C Morterra A Zecchina and G Costa (Elsevier: Amsterdam, 1989).

161. Theory of Image States at Metal Surfaces (with P.M.Echenique)
Progress in Surface Science **32** 111-72 (1989).

162. Layer KKR Theory for Close Spaced Planes of Atoms (with JM MacLaren, S Crampin, and DD Vvedensky)
Phys. Rev. **B40** 12176- (1989).

163. Theory of Positronium Formation at Metallic Surfaces II: Multiple Scattering Formalism.
Surface Science **209** 23-43 (1989).

164. Reflection of Waves from Disordered Surfaces (with C Barnes)
J. Phys. [Condensed Matter] **1** 7901-12 (1989).

165. Transfer Matrices and Conductivity in 2D and 3D Systems: I Formalism.
J. Phys. [Condensed Matter] **2** 3273-86 (1990).

166. Transfer Matrices and Conductivity in 2D and 3D Systems: II Localised and Delocalised Systems
J. Phys. [Condensed Matter] **2** 3287-301 (1990).

167. Statistics and Scaling in One Dimensional Disordered Systems (with KM Slevin)
J. Phys. [Condensed Matter] **2** 2821-32 (1990).

168. Direct LEED Analysis of C(2x2) O/Ni(100) Including Substrate Reconstruction (with K Heinz and W Oed)
Phys. Rev. Rapid Communications **B41** 10178-10181 (1990).

169. Direct Methods in Surface Crystallography (with K Heinz and W Oed)
Vacuum **41** 342 (1990).

170. Layer KKR Electronic Structure Code for Bulk and Interface Geometries (with JM MacLaren, S Crampin, D.D.Vvedensky, and RC Albers)
Phys. Rev. **B40** 12164-12175 (1990).

171. Maximal Fluctuations - A New Phenomenon in Disordered Systems (with A MacKinnon and AB Pretre)
Physica **A168** 400 (1990).

172. EXAFS A Critical Review
Proceedings of EXAFS VI York (1990).

173. Log Normal Distribution as a Description of Fluctuations in 1D Disordered Systems (with K Slevin)
Phys. Rev. Rapid Communications **41** 10240-10142 (1990).

174. Causal- Surface Green's Function Method (with PJ Rous and AB Prêtre)
Surface Science **244** 160 (1991).

175. Disordered Adsorption of O and S on Ni(100) Studied by DLEED (with U Starke, W.Oed, P Bayer, G Fuerst, and K Heinz)
Springer Series in Surface Science: The Structure of Surfaces ed. SY Tong, MA Van Hove and K Takayanagi **24** 427 (1991).

176. Application of Direct Methods in LEED to Multilayer Relaxations, Adsorption Sites, and Adsorbate Induced Reconstruction (with K Heinz and W Oed)
Springer Series in Surface Science: The Structure of Surfaces ed. SY Tong, MA Van Hove and K Takayanagi **24** 139 (1991).

177. Ordered and Disordered O and S on Ni(100) (with W Oed, U Starke, K Heinz, and K Müller)
Surface Science, **251/252** 488 (1991).

178. Adsorbate Induced Reconstruction of O and S on Ni(100) (with W Oed, U Starke, K Heinz, and K Müller)
J. Phys. C [Condensed Matter] **251/252** Suppl. 223 (1991).

179. Multiple Scattering of Waves in Random Media: a Transfer Matrix Approach (with C Barnes)
Proc Roy Soc A **435** 185 (1991).

180. Singularities in Forward Scattering Through Random Media (with PJ Roberts)
Waves in Random Media **2** 195 (1991).

181. Structure and Function at Catalyst Surfaces
Catalysis Letters **9** 189 (1991).

182. Bonding at Surfaces
Phil. Trans. Roy. Soc. London **A334** 539 (1991).

183. Structure and Function at Catalyst Surfaces
Catalysis Letters **9** 189 (1991).

184. Theory of the Scanning Tunneling Microscope (with AB Prêtre and BCH Krutzen)
J. Phys. [Condensed Matter] **3** 4313 (1991).

185. A Holographic Diffuse LEED Study of Disordered O/Ni(100) (with MA Mendez, C Glück, J Guerrero, PL de Andres, K Heinz, and DK Saldin)
Phys. Rev. **B45** 9402 (1992).

186. Multiterminal Phase Coherent Magnetoconductance (with AB Prêtre and L Martín-Moreno)
Superlattices and Microstructures **11** 303 (1992).

187. Universality Classes and Fluctuations in Disordered Systems (with A MacKinnon and PJ Roberts)
Proc. Roy. Soc. A **437** 67 (1992).

188. LEED Structure Analysis of Ni(100) C(4x2)K (with U Muschiol, P Bayer, K Heinz, K Müller and W Oed)
Surface Science **275** 185 (1992).

189. A Linear Approximation to Dynamic LEED, A Wander, JB Pendry, MA Van Hove, *Phys. Rev. Rapid Communications* **B46** 9897 (1992).

190. The Clean and H- Induced Reconstruction of W(100) Studied by LEED at Slanting Primary beam Incidence, G Schmidt, H Zagel, H Landskron, K Heinz, K Müller, JB Pendry, *Surface Science* **271** 416 (1992).

191. The Expansion of Tensor LEED in Cartesian Co-ordinates W Oed, PJ Rous, and JB Pendry, *Surface Science* **273** 261 (1992).

192. Calculation of Photon Dispersion Relationships (with A MacKinnon)
Phys. Rev. Lett. **69** 2772 (1992).

193. Electronic Structure of Surfaces and of Adsorbed Species
Phil. Trans. Roy. Soc. **A341** 293-300 (1992).

194. LEED and the Crystallography of Surfaces
Surface Science Reports **19** 87 (1993).

195. An STM Investigation of the P(2x2) and C(2x2) Overlayers of S on Ni(100) (A Partridge, GJ Tatlock, FM Leibsle, CFJ Flipse, G Hörmandinger and JB Pendry)
Phys. Rev. **B48** 8267 (1993).

196. Transfer Matrices and the Glory (with PJ Roberts)
Waves in Random Media **3** 221 (1993).

197. Photonic Band Structures
The Journal of Modern Optics **41** 209 (1993).

198. Coverage Dependent DLEED Analysis of the Adsorption Structure of K on Ni(100) (H Wedler, MA Mendez, P Bayer, U Löffler, K Heinz, V Fritzsche, and JB Pendry)
Surface Science **293** 47 (1993).

199. An STM Investigation of the Ni(100)-p(2x2)C Surface (G Hörmandinger, JB Pendry, FM Leibsle, PW Murray, RW Joyner and G Thornton)
Phys Rev **B48** 8356 (1993).

200. Investigation of Surface Atom Vibrations by Tensor LEED (with U Löfller, R Döll, K Heinz, JB Pendry)
Surface Science **301** 346 (1993).

201. Theoretical Calculations of STM data on Ni(100)-C for Various Concentrations of Carbon (G Hörmandinger and JB Pendry)
Surface Science **303** 197 (1993).

202. Quantum Well Resonances in Scanning Tunnelling Microscopy (G Hörmandinger and JB Pendry)
Surface Science **295** 34 (1993).

203. A Linear Superposition Method for the Multiple Scattering Problem in Low Energy Photoelectron Diffraction
Phys Rev **B48** 9054 (1993).
(V Fritzsche and JB Pendry)

204. Surface Dipole Moments from LEED Investigations
Surface Science **289** 389 (1993).
(V Fritzsche, JB Pendry, U Loeffler, H Wedler, MA Mendez and K Heinz)

205. Multiple Scattering Theory of Electron Diffraction (*in Surface Science: the First 30 Years*)
Surface Science **299/300** 375 (1994).

206. Determination of Anisotropic Vibrations by Tensor LEED
Surface Science **301** 346-52 (1994).
(U Loeffler, U Muschiol, P Bayer, K Heinz, V Fritzsche, and JB Pendry)

207. Symmetry and Transport of Waves in 1D Disordered Systems
Advances in Physics, **43** 461-542 (1994).

208. Energy Loss by Charged Particles in Complex Media
Phys. Rev. **B50** 5062 (1994).
(JB Pendry and L Martín-Moreno)

209. Electromagnetic Radiation in Nanostructures
in *'Ultimate Limits of Fabrication and Measurement'* Ed. ME Welland (Kluwer, Dordrecht)

210. A Polarised Transfer Matrix for EM Waves in Structured Media
The Journal of Modern Optics **41** 1781 (1994).
(AS McLean and JB Pendry)

211. The Interaction of Surface States with Rows of Adsorbed Atoms and Other 1D Scatterers
Phys. Rev. **B50** 18607 (1994).
(G Hörmandinger and JB Pendry)

212. Polarisation Effects in Electromagnetic Wave Propagation in a 2-D Random System
The Journal of Modern Optics **42**, 339 (1995).
(AS McLean and JB Pendry)

213. A Program for Calculating Photonic Band Structures and Transmission Coefficients of Complex Structures
Comp. Phys. Comm., **85** 306 (1995).
(PM Bell, JB Pendry, L Martín-Moreno, and AJ Ward)

214. Electron Energy Loss in Dense Arrays of Metallic Particles
Nuclear Instruments and Methods in Physics Research section B *Beam Interactions with Materials and Atoms* **B96** 565 (1995).
(L Martín-Moreno and JB Pendry)

215. Photonic Dispersion Surfaces
J. Phys. [Condensed Matter] **7** 2217 (1995).
(AJ Ward , JB Pendry and WJ Stewart)

216. Beyond Diffusion to Diffraction
The Journal of Modern Optics **42**, 2495 (1995).
(AS McLean and JB Pendry)

217. Electromagnetic Interactions with Rough Metal Surfaces
Progress in Surface Science, **50** 55 (1995).
(FJ Garcia-Vidal and JB Pendry)

218. Calculating Photonic Band Structure
J. Phys. [Condensed Matter] **8** 1085-1108 (1996).

219. Green's Functions for Maxwell's Equations: Application to Spontaneous Emission
Optical and Quantum Electronics, **29** 199-216 (1997)
F Wijnands, J B Pendry, P J Roberts, F J Garcia-Vidal, L Martín-Moreno, P M Bell

220. Refraction and Geometry in Maxwell's Equations
Journal of Modern Optics, **43** 773-93 (1996).
A J Ward, J B Pendry

221. Numerical Method for Calculating Spontaneous Emission Rate Near a Surface Using Green's Functions
Proceedings NATO Workshop - Cargese '95
F Wijnands, JB Pendry, PJ Roberts, PM Bell, L Martín-Moreno, FJ Garcia-Vidal

222. Direct Reconstruction of 3D Atomic Adsorption Sites by Holographic Low Energy Electron Diffraction
Phys. Rev. **B54** 8172-6 (1996)
D K Saldin, K Reuter, P L De Andres, H Wedler, X Chen, JB Pendry and K Heinz

223. Electromagnetic Field Distributions in Complex Dielectric Structures
"Photonic Band Gap Materials" NATO ASI series
ed. CM Soukoulis (Kluwer, Dordrecht, 1996)
Martín-Moreno, PM Bell, FJ Garcia Vidal and JB Pendry

224. Transfer Matrix Techniques for Electromagnetic Waves
"Photonic Band Gap Materials" NATO ASI series
ed. CM Soukoulis (Kluwer, Dordrecht, 1996)
JB Pendry and PM Bell

225. Extremely Low Frequency Plasmons in Metallic Mesostructures
Phys. Rev. Lett. **76** 4773-6 (1996).
JB Pendry, AJ Holden, WJ Stewart, I Youngs

226. A Collective Theory for Surface Enhanced Raman Scattering.
Phys. Rev. Lett. **77** 1163-6 (1996).
JB Pendry and FJ Garcia Vidal

227. Diffuse Low Energy Electron Diffraction.
Progress in Surface Science **52** 53-124 (1996).
U Starke, JB Pendry, and K Heinz

228. Electron Energy Loss in Composite Systems
Phys. Rev. **B55** 9550-7 (1997).
JM Pitarke, JB Pendry, and PM Echenique

229. Effective Medium Theory of the Optical Properties of Aligned Carbon Nanotubes
Phys Rev Lett. **78** 4289-92 (1996).
FJ Garcia Vidal, JM Pitarke, and JB Pendry

230. The Case for Order-N Methods in LEED Theory
Surface Review Letters **4** 901-905 (1997)
JB Pendry

231. Shearing the Vacuum - Quantum Friction
J. Phys. [Condensed Matter] 10301-20 **9** (1997).
JB Pendry

232. Mie Resonances and Bonding in Photonic Crystals
Europhys. Lett., 613-618 **40** (1997).
MI Antonoyiannakis and JB Pendry

233. 3D Photonic Band Gap in Woven Structures
J. Phys. [Condensed Matter] **10** 753-60 (1998).
Ya-Chih Tsai, Kenneth W-K Shung, and JB Pendry

234. Absolute 3D Photonic Band Gap in the IR Regime in in Woven Structures
Phys. Rev. **B59** R10401-404 (1999).
Ya-Chih Tsai, JB Pendry, and Kenneth W-K Shung

235. Effective electronic response of a system of metallic cylinders
Phys. Rev. **B57** 15261-6 *(1998).*
JM Pitarke, FJ Garcia Vidal, and JB Pendry

236. The Theory of SNOM: a Novel Approach
Journal of Modern Optics, **44** 1703-14 (1997).
AJ Ward and JB Pendry

237. 1/f Noise in Localised Systems
Superlattices and Microstructures, **23** 871-82 (1998).

238. Can Sheared Surfaces Emit Light?
Journal of Modern Optics **45** 2389-408 (1998).
JB Pendry

239. Low Frequency Plasmons in Thin Wire Structures
J. Phys. [Condensed Matter] **10** 4785-809 (1998).
JB Pendry, AJ Holden, DJ Robbins, and WJ Stewart

240. Silver filled carbon nanotubes used as spectroscopic enhancers
Phys. Rev. **B58** 6783-6 (1998).
FJ Garcia Vidal, JM Pitarke, and JB Pendry

241. Order N Photonic Band Structures for Metals and Other Dispersive Materials
Phys. Rev. **B59** 1874-7 (1999).
J Arriaga, AJ Ward, and JB Pendry

242. Electromagnetic forces in photonic crystals
Phys. Rev. **B60** *2363-74* (1999).
MI Antonoyiannakis, and JB Pendry

243. A program for calculating photonic band structures and Green's functions using a non-orthogonal FDTD method
Comp. Physics Comm. **112** 23 (1998).
AJ Ward and JB Pendry

244. Calculating photonic Green's functions in the time domain using a non-orthogonal FDTD method
Phys. Rev. **B58** 7252-9 (1998).
AJ Ward and JB Pendry

245. Photonic band gap materials
Current Science **76** 1311-6 (1999).
JB Pendry

246. Interface modes of 2D composite systems
Surf. Sci. **433-435**, 605-11 (1999).
JM Pitarke, FJ Garcia Vidal, and JB Pendry

247. Improved scheme for calculating photonic band structure
submitted to *IEEE transactions on microwave theory and techniques* (1998).
I Watson and JB Pendry

248. Magnetism from Conductors and Enhanced Non-Linear Phenomena
IEEE transactions on microwave theory and techniques **47**, 2075-84 (1999).
JB Pendry, AJ Holden, DJ Robbins, and WJ Stewart

249. Radiative Exchange of Heat Between Nanostructures
J. Phys. [Condensed Matter] **11** 6621-33 (1999).
JB Pendry

250. Transmission Resonances on Metallic Gratings with Very Narrow Slits
Phys. Rev. Lett. **83,** 2845-8 (1999).
JA Porto, FJ Garcia Vidal, and JB Pendry

251. Playing Tricks with Light
Science **285** 1687-8 (1999).
JB Pendry

252. A program for calculating photonic band structures, Green's functions and transmission/reflection coefficients using a non-orthogonal FDTD method
Computer Physics Communications **128**, 590-621 (2000).
AJ Ward and JB Pendry

253. Light runs backwards in time
Physics World **13**, 27 (2000).
JB Pendry

254. Negative Refraction Makes a Perfect Lens
Phys. Rev. Lett. **85,** 3966-9 (2000).
JB Pendry

255. Theory of Extraordinary Optical Transmission through Subwavelength Hole Arrays
Phys. Rev. Lett. **86,** 1114-7 (2001).
Martín-Moreno, FJ Garcia Vidal, HJ Lezec, KM Pellerin, T Thio, JB Pendry, and TW Ebbesen.

256. Microstructured Magnetic Materials for RF Flux Guides in Magnetic Resonance Imaging (MRI)
Science **291** 848-51 (2001).
M C K Wiltshire, J B Pendry, I R Young, D J Larkman, D J Gilderdale and J V Hajnal.

257. Electromagnetic Materials Enter the Negative Age
Physics World **14** [9], 47 (2001).
JB Pendry

258. Intense Focusing of Light Using Metals
"Photonic Crystals and Light Localisation in the 21st Century" NATO ASI series 329-349 ed. CM Soukoulis (Kluwer, Dordrecht, 2001)
JB Pendry

259. Evanescently Coupled resonance in Surface Plasmon Enhanced Transmission
Optics Communications **200,** 1-7 (2001).
A Krishnan, T Thio, TJ Kim, HJ Lezec, TW Ebbesen, PA Wolff, JB Pendry, L Martín-Moreno, FJ Garcia Vidal

260. Time reversal symmetry, microcavities, and photonic crystals
J. Mod. Optics **48** 581-95 (2001).
G Guida, PN Stavrinou, G Parry, and JB Pendry

261. Imaging the Near Field
J. Mod. Optics **50** 1419-30 (2003).
S.Anantha Ramakrishna, J.B. Pendry, M.C.K. Wiltshire and W.J. Stewart

262. Limitations on Sub-Diffraction Imaging with a Negative Refractive Index Slab
Applied Physics Letters **82** 2215-7 (2003).
David R. Smith, David Schurig, Marshall Rosenbluth, Sheldon Schultz, S. Anantha Ramakrishna, John B. Pendry

263. Evanescent Fabry-Perot Resonator with Surface-Plasmon Driven Mirrors
***
A. Krishnan, T. Thio, T. J. Kim, H. J. Lezec, T. W. Ebbesen, P. A. Wolff, J. Pendry, L. Martin-Moreno, F. J. Garcia-Vidal

264. The Asymmetric Lossy Near Perfect Lens
J. Mod.Optics **49**, 1747-62 (2002).
S. Anantha Ramakrishna, John B. Pendry, David Schurig, David R. Smith, Sheldon Schultz

265. All-Angle Negative Refraction without Negative Effective Index
Phys. Rev. Rapid Communications **B65**, 201104(R) (2002).
Chiyan Luo, Steven G. Johnson, J.D. Joannopoulos and JB Pendry

266. Photonic Band Gap Effects and Magnetic Activity in Dielectric Composites
J. Phys. [Condensed Matter] **14** 4035-44 (2002).
Stephen O'Brien and JB Pendry

267. Magnetic Activity at Infra Red Frequencies in Structured Metallic Photonic Crystals
J. Phys. [Condensed Matter] **14** 6383-94 (2002).
Stephen O'Brien and JB Pendry

268. Removal of absorption and increase in resolution in a near-field lens via optical gain
Phys. Rev. **B67** 201101 (2003).
S. Anantha Ramakrishna and John B. Pendry

269. Comment on "Wave Refraction in Negative-Index Media: Always Positive and Very Inhomogeneous"
Phys. Rev. Lett. **90** 29703 (2003).
JB Pendry and DR Smith

270. Comment on "Left-Handed Materials Do Not Make a Perfect Lens"
Phys. Rev. Lett. **91** 099701 (2003).
JB Pendry

271. Negative Refraction of Modulated Electromagnetic Waves
Applied Physics Letters **81** 2713-5 (2002)
DR Smith, D Schurig and JB Pendry

272. Near Field Lenses in Two Dimensions
J. Phys. [Condensed Matter] **14** 8463-79 (2002).
JB Pendry and SA Ramakrishna

273. Refining the Perfect Lens: Layered Media and Optical gain
Proceedings of the European Microwave Conference, Milan 2002
SA Ramakrishna and JB Pendry

274. Towards photonic Crystal Metamaterials: Creating Magnetic Emitters in Photonic Crystals
Appl. Phys. Lett. **82** (7), 1069-1071 (2003).
ML Povinelli, SG Johnson, JD Joannopoulos, and JB Pendry

275. Near Field Imaging with Magnetic Wires
Optics Express **11** 709-715 (2003)
MCK Wiltshire, JV Hajnal, JB Pendry and DJ Edwards

276. Negative refraction without negative index in metallic photonic crystals
Opt. Express **11**, 746-754 (2003),
Chiyan Luo, SG Johnson, JD Joannopoulos, and JB Pendry

277. Positively Negative
Nature 'News and Views' **423** 22-23 (2003)

278. Perfect Cylindrical Lenses
Optics Express **11** 755-760 (2003)
JB Pendry

279. Terahertz Magnetic Response from Artificial Materials
Science **303** 1494-6 (2004)
TJ Yen, WJ Padilla, N Fang, DC Vier, DR Smith, JB Pendry, D.N. Basov, X. Zhang

280. Focussing Light Using Negative Refraction
J. Phys. [Condensed Matter] **15** 6345-64 (2003).
JB Pendry and SA Ramakrishna

281. Subwavelength imaging in photonic crystals
Phys. Rev. **B68** 045115_1-15 (2003)
Chiyan Luo, SG Johnson, JD Joannopoulos, and JB Pendry

282. Refining the Perfect Lens
Physica B. **338** 329-32 (2003) (ETOPIM proceedings)
JB Pendry and SA Ramakrishna

283. Reversing Light with Negative Refraction
Physics Today **57** [6] 37-43 (June 2004)
JB Pendry and DR Smith

284. Negative Refraction
Contemporary Physics **45** 191-202 (2004)
JB Pendry

285. Near-Infrared Photonic Band Gaps and Nonlinear Effects in Negative Magnetic Materials
Phys. Rev. **B69** 241101 (2004)
S. O'Brien, D McPeake, SA Ramakrishna and JB Pendry

286. Mimicking Surface Plasmons with Structured Surfaces
Science **305** 847-8 (2004)
JB Pendry, L Martín-Moreno, and FJ Garcia-Vidal

287. Metamaterials and Negative Refractive Index
Science **305** 788-92 (2004)
DR Smith, JB Pendry, MCK Wiltshire

288. Manipulating the near field with metamaterials
Optics & Photonics News **15** 33-7 (2004)
JB Pendry

289. Spherical perfect lens: Solutions of Maxwell's equations for spherical geometry
Phys. Rev. **B69** 115115 (2004)
SA Ramakrishna & JB Pendry

290. Surfaces with holes in them: new plasmonic metamaterials
J. Opt. A – Pure & Applied Optics **7** S97-S101 (2004)
FJ Garcia-Vidal, L Martin-Moreno, JB Pendry

291. A Chiral Route to Negative Refraction
Science **306** 1353-5 (2004)
JB Pendry

292. The perfect corner reflector
Optics Letters **30** 1204-6 (2005)
Sébastien Guenneau, Boris Gralak, and J.B. Pendry

293. Generating Bessel beams by use of localized modes
J. Opt. Soc. Am. **A22** 992-7 (2005)
WB Williams & JB Pendry

294. Electromagnetic response of a point-dipole crystal
Phys. Rev. **B72** 205103 (2005)
K. Kempa, R. Ruppin, and J. B. Pendry

295. Saturation of the magnetic response of split-ring resonators at optical frequencies
Phys. Rev. Lett. **95** 223902 (2005)
J. Zhou, Th. Koschny, M.Kafesaki, E.N.Economou, J.B.Pendry, and C.M. Soukoulis

296. Homogenization of Metamaterials by Field Averaging
JOSA **B23** 391-403 (2006)
D. R. Smith & J. B. Pendry

297. Sub-wavelength imaging at radio frequency
J. Phys. [Condensed Matter] **18** L315-21 (2006).
MCKWiltshire, JB Pendry and JV Hajnal

298. The quest for the superlens
Scientific American **295**[1] pages 60- 67 July (2006).
JB Pendry and DR Smith

299. Controlling Electromagnetic Fields
Science **312** 1780-2 (2006).
JB Pendry, D Schurig, and DR Smith

300. Directed Sub Wavelength Imaging Using a Layered Metal-Dielectric System
Phys. Rev. **B74** 115116 (2006).
B Wood & JB Pendry

301. Demonstration of a Metamaterial Electromagnetic Cloak at Microwave Frequencies
D. Schurig, J. J. Mock, B. J. Justice, S. A. Cummer, J. B. Pendry, A. F. Starr, D. R. Smith
Science, **314,** 977-80 (2006).

302. Full-wave simulations of electromagnetic cloaking structures
Steven A. Cummer, Bogdan-Ioan Popa, David Schurig, David R. Smith, and JB Pendry
Phys. Rev. **E74**, 036621 (2006)

303. Calculation of material properties and ray tracing in transformation media
D. Schurig, J.B. Pendry, D.R. Smith
Optics Express, **14**, Issue 21, 9794-9804 (2006).

304. Metamaterials in the Sunshine
JB Pendry
Nature Materials **5** 599 (2006).

305. Metamaterials at zero frequency
B. Wood and JB Pendry
J. Phys.: Condens. Matter, **19,** 076208 (2007).

306. Non-local effective medium of metamaterial
Jensen Li and JB Pendry
submitted to *Phys Rev B* (2007).

307. Guiding focusing and sensing on the subwavelength scale using metallic wire arrays
G. Shvets, S. Trendafilov, JB Pendry et al.
Phys. Rev. Lett. **99,** 53903 (2007).

308. An Effective Medium Description of "Swiss Rolls", a Magnetic Metamaterial
MCK Wiltshire, JB Pendry, W Williams and JV Hajnal
J Phys Conden Matter **19** 456216 (2007).

309. Electromagnetic analysis of cylindrical invisibility cloaks and the mirage effect
Frédéric Zolla, Sébastien Guenneau, André Nicolet, and J. B. Pendry
Optics Letters, **9** 1069 (2007).

310. Transformation designed optical elements
D. Schurig, J.B. Pendry, D.R. Smith
Optics Express, **15**, Issue 22, 14772-14782 (2007).

311. Negative Refraction for Electrons?
JB Pendry
Science **315** 1226-1227 (2007).

312. Scattering Theory Derivation of a 3D Acoustic Cloaking Shell
Steven A. Cummer, Bogdan-Ioan Popa, David Schurig, David R. Smith, John Pendry, Marco Rahm, and Anthony Starr,
Phys. Rev. Lett. **100,** 024301 (2008).

313. Optical Design of Reflectionless Complex Media by Finite Embedded Coordinate Transformations,
Marco Rahm, Steven A. Cummer, David Schurig, John Pendry and David R. Smith
Phys. Rev. Lett. **100,** 063903 (2008).

314. Design of electromagnetic cloaks and concentrators using form-invariant coordinate transformations of Maxwell's equations
M. Rahm, D. Schurig DA Roberts DA, et al.
Photonics and Nanostructures-Fundamentals and Applications, **6** 87-95 (2008).

315. A DC Magnetic Metamaterial
F Magnus, B Wood, J Moore, et al.
Nature Materials **7** 295-297 (2008).

316. Transformation-optical design of adaptive beam bends and beam expanders
M. Rahm, DA Roberts, JB Pendry, et al.
Optics Express **16** 11555-11567 (2008)

317. Resonant photon tunneling via surface plasmon polaritons through one-dimensional metal-dielectric metamaterials
S Tomita, T Yokoyama. H Yanagi, B. Wood, JB Pendry, M Fujii, S Hayashi,
Optics Express **16** 9942-9950 (2008)

318. Taming dispersion in wire metamaterial
A Demetriadou and JB Pendry
J Phys Conden Matter **20** 295222 (2008).

319. Light finds a way through the maze
JB Pendry
Physics **1** 20 (2008).

320. Time Reversal & Negative Refraction
JB Pendry
Science **322** 71 (2008).

321. Hiding Under the Carpet: a New Strategy for Cloaking
Jensen Li and JB Pendry
Physical Review Letters **101** 203901 (2008).

322. Metamaterials and the Control of Electromagnetic Fields
J.B. Pendry
in "*Coherence and Quantum Optics IX*", edited by N.P. Bigelow, J.H. Eberly and C.R. Stroud, Jr. (OSA Publications, 2009), pp. 42-52. (2008).

323. An acoustic metafluid: realizing a broadband acoustic cloak
JB Pendry, J. Li
New Journal of Physics, **10,** 115032 (2008).

324. Holey metal films make perfect endoscopes
J Jung, FJ Garcia-Vidal, L Martin-Moreno, JB Pendry
Phys. Rev. **B79**(15) 153407 (2009).

325. Chiral Swiss rolls show a negative refractive index
MCK Wiltshire, JB Pendry, JV Hajnal
J Phys-Condens Mat **21**(29) 292201 (2009).

326. Numerical analysis of Swiss roll metamaterials
A. Demetriadou, JB Pendry
J Phys-Condens. Mat. **21**(32) 326006, (2009).

327. Mimicking a negative refractive slab by combining two phase conjugators
A. Aubry, JB Pendry
Journal of the Optical Society of America B-Optical Physics, **27,** 72-84 (2010).

328. Extreme chirality in Swiss roll metamaterials
A Demetriadou, JB Pendry
Journal Of Physics-Condensed Matter, **21**, 376003 (2009).

329. Shrinking optical devices
WH Wee, JB Pendry
New Journal of Physics, **11**, 073033 (2009).

330. Taking the Wraps off Cloaking
JB Pendry
Physics, **2**, 95 (2009).

331. Three-Dimensional Invisibility Cloak at Optical Wavelengths
Tolga Ergin, Nicolas Stenger, Patrice Brenner, John B. Pendry, and Martin Wegener
Science **328**, 337 (2010).

332. Quantum friction-fact or fiction?
JB Pendry
New Journal of Physics, **12** 033028 (2010).

333. Super phase array
WH Wee, JB Pendry
New Journal of Physics, **12** 033047 (2010).

334. Looking beyond the perfect lens
WH Wee, JB Pendry
New Journal of Physics **12** 053018 (2010).

335. Reply to comment on 'Quantum friction-fact or fiction?'
JB Pendry
New Journal of Physics **12** 068002 (2010).

336. Plasmonic Light-Harvesting Devices over the Whole Visible Spectrum
A. Aubry, DY Lei, AI Fernandez-Dominguez, S. Maier and JB Pendry
Nano Letters, **10,** 2574-2579, (2010).

337. Cross-section comparisons of cloaks designed by transformation optical and optical conformal mapping approaches
Yaroslav A Urzhumov, Nathan B Kundtz, David R Smith & John B Pendry
Journal of Optics, **13,** 024002, (2011).

338. Broadband plasmonic device concentrating the energy at the nanoscale: The crescent-shaped cylinder
Alexandre Aubry, Dang Yuan Lei, Stefan A. Maier, and J. B. Pendry
Physical Review, **B82**, 125430, (2010).

339. Conformal transformation applied to plasmonics beyond the quasistatic limit
Alexandre Aubry, Dang Yuan Lei, Stefan A. Maier, and J. B. Pendry
Physical Review, **B82**, 205109, (2010).

340. Surface Plasmons and Singularities
Y. Luo, JB Pendry, A. Aubry A
Nano Letters, **10** 4186-4191 (2010).

341. Broadband nano-focusing of light using kissing nanowires
Lei Dang Yuan; Aubry Alexandre; Maier Stefan A.; et al.
New Journal Of Physics, **12**, 093030 (2010).

342. Interaction between Plasmonic Nanoparticles Revisited with Transformation Optics
Aubry Alexandre; Lei Dang Yuan; Maier Stefan A.; et al.
Physical Review Letters, **105** (2010).

343. Collection and Concentration of Light by Touching Spheres: A Transformation Optics Approach
Fernandez-Dominguez A. I.; Maier S. A.; Pendry J. B.
Physical Review Letters, **105,** (2010).

344. Plasmonic Interaction between Overlapping Nanowires
Lei Dang Yuan; Aubry Alexandre; Luo Yu; et al.
ACS Nano, **5,** 597-607 (2011).

345. Macroscopic invisibility cloaking of visible light
Chen Xianzhong; Luo Yu; Zhang Jingjing; et al.
Nature Communications, **2,** 176 (2011).

346. Plasmonic Hybridization between Nanowires and a Metallic Surface: A Transformation Optics Approach
Aubry Alexandre; Lei Dang Yuan; Maier Stefan A.; et al.
ACS Nano, **5**, 3293-3308 (2011).

347. Electromagnetic contribution to surface-enhanced Raman scattering from rough metal surfaces: A transformation optics approach
Luo Yu; Aubry Alexandre; Pendry J. B.
Physical Review, **B83**, 155422 (2011).

348. Universal Evolution of Perfect Lenses
Wee W. H.; Pendry J. B.
Physical Review Letters, **106,** 165503 (2011).

349. Time Reversal in Dynamically Tuned Zero-Gap Periodic Systems
Sivan Yonatan; Pendry John B.
Physical Review Letters, **106**, 193902 (2011).

350. Broadband time-reversal of optical pulses using a switchable photonic-crystal mirror
Sivan Yonatan; Pendry John B.
Optics Express, **19**, 4502-14507 (2011).

351. Theory of wave-front reversal of short pulses in dynamically tuned zero-gap periodic systems
Sivan Yonatan; Pendry John B.
Physical Review, **A84**, 033822 (2011).

352. Electromagnetic Design With Transformation Optics
Kundtz Nathan B.; Smith David R.; Pendry John B.
Proceedings of the IEEE, **99**, 1622-1633 (2011).

353. OPN Talks with ... Sir John Pendry
Basista Lyndsay; Pendry John
Optics & Photonics News **22** 16-17 (2011).

354. Comment on "Spaser Action, Loss Compensation, and Stability in Plasmonic Systems with Gain"
Pendry J. B., Maier S. A.
Physical Review Letters **107** 259703 (2011).

355. Active nanoplasmonic metamaterials
Hess O; Pendry J B; Maier S A; et al.
Nature Materials, **11** 573-84 (2012).

356. Broadband Light Harvesting Nanostructures Robust to Edge Bluntness
Luo Yu; Lei Dang Yuan; Maier S.A.; Pendry J.B.
Physical Review Letters **108** 023901 (2012).

357. Revealing Plasmonic Gap Modes in Particle-on-Film Systems Using Dark-Field Spectroscopy
Lei Dang Yuan; Fernandez-Dominguez Antonio I.; Sonnefraud Yannick; Appavoo K.; Haglund R.F.; Pendry J.B.; Maier S.A.
ACS NANO **6** 1380-1386 (2012).

358. Transformation-Optics Description of Nonlocal Effects in Plasmonic Nanostructures
Fernandez-Dominguez A. I.; Wiener A.; Garcia-Vidal F. J.; Maier SA; Pendry J.B.
Physical Review Letters **108** 106802 (2012).

359. Transformation optics description of touching metal nanospheres
Fernandez-Dominguez A. I.; Maier S. A.; Pendry J. B.
Physical Review **B85** 165148 (2012).

360. Localized Spoof Plasmons Arise while Texturing Closed Surfaces Pors Anders; Moreno Esteban; Martin-Moreno L.; Pendry JB; Garcia-Vidal FJ,
Physical Review Letters **108** 223905 (20120).

361. Nonlocal Effects in the Nanofocusing Performance of Plasmonic Tips
Wiener Aeneas; Fernandez-Dominguez Antonio I.; Horsfield Andrew P.; et al.
Nano Letters **12** 3308-3314 (2012).

362. Transformation optics and subwavelength control of light
J. B. Pendry, A. Aubry, D. R. Smith, S. A. Maier
Science **337**, 549-52 (2012).

363. Probing the Ultimate Limits of Plasmonic Enhancement
C. Ciracì, R. T. Hill, J. J. Mock, Y. Urzhumov, A. I. Fernández-Domínguez, S. A. Maier, J.B. Pendry, A. Chilkoti, D. R. Smith
Science **337**, 1072-4 (2012).

364. Nanoparticle-Assisted Stimulated-Emission-Depletion Nanoscopy
Y. Sivan, Y. Sonnefraud, S. Kena-Cohen, et al.
ACS Nano, **6**, 5291-5296 (2012).

365. Active nanoplasmonic metamaterials
O. Hess, J.B. Pendry, S.A. Maier, et al.
Nature Materials, **11**, 573-584, (2012).

366. Transformation-Optics Description of Plasmonic Nanostructures Containing Blunt Edges/Corners: From Symmetric to Asymmetric Edge Rounding
Y. Luo, Dang Yuan Lei, S.A. Maier, et al.
ACS Nano, **6**, 6492-6506, (2012).

367. Broadband Terahertz Plasmonic Response of Touching InSb Disks
S.M. Hanham, A.I. Fernandez-Dominguez, J.H. Teng, et al.
Advanced Materials, **24**, 226-230, (2012).

368. Rotational Quantum Friction
R. Zhao, A. Manjavacas, F.J. Garcia de Abajo, et al.
Physical Review Letters, **109,** 123604 (2012).

369. Theory of Three-Dimensional Nanocrescent Light Harvesters
A.I. Fernandez-Dominguez, Y. Luo, A. Wiener,
Nano Letters, **12,** 5946-5953, (2012).

370. Transformation-optics insight into nonlocal effects in separated nanowires
A.I. Fernandez-Dominguez, P. Zhang, Y. Luo, et al.
Physical Review B, **86**, 241110 (2012).

371. Transformation Optics for Plasmonics
A. Aubry and JB Pendry in
"Active Plasmonics and Tuneable Plasmonic Metamaterials" ed. A. V. Zayats and S. A. Maier, Wiley (2013).

372. Electron-Energy Loss Study of Nonlocal Effects in Connected Plasmonic Nanoprisms,
Aeneas Wiener, Huigao Duan, Michel Bosman, Andrew P. Horsfield, J. B. Pendry, Joel K. W. Yang, Stefan A. Maier, and Antonio I. Fernández-Domínguez,
ACS Nano, **7,** 6287–6296 (2013).

373. Description of van derWaals Interactions Using Transformation Optics
Rongkuo Zhao, Yu Luo, A. I. Ferna´ndez-Domı´nguez, and J. B. Pendry,
Phys. Rev. Lett., **111**, 033602 (2013).

374. Capturing photons with transformation optics
J. B. Pendry, A. I. Fernández-Domínguez, Yu Luo and Rongkuo Zhao,
Nature Physics, **9**, 518-22 (2013).

375. Surface Plasmons and Nonlocality: A Simple Model
Yu Luo, A.I. Fernandez-Dominguez, Aeneas Wiener, et al.
Physical Review Letters, **111,** 093901 (2013).

376. Negative Refraction: Imaging through the looking-glass
R.F. Oulton, J.B. Pendry,
Nature Physics, **9,** 323-324 (2013).

377. Hydrodynamic Model for Plasmonics: A Macroscopic Approach to a Microscopic Problem
C. Ciraci, J.B. Pendry, D.R. Smith,.
ChemPhysChem, **14,** 1109-1116 (2013).

378. Nonlocal propagation and tunnelling of surface plasmons in metallic hourglass waveguides
A. Wiener, AI Fernandez-Dominguez, JB Pendry, et al.
Optics Express, **21** 27509-27518 (2013).

379. Harvesting light with transformation optics
Yu Luo, RongKuo Zhao, AI Fernandez-Dominguez, et al.
Science China-Information Sciences, **56** 120401 (2013).

380. Transformation optics and hidden symmetries
Matthias Kraft, JB Pendry, SA Maier, and Yu Luo,
Phys. Rev. **B89** 245125 (2014).

381. Magnetic Localized Surface Plasmons
Paloma A Huidobro, Xiaopeng Shen; J Cuerda, Esteban Moreno, L Martin-Moreno, F. J. Garcia-Vidal, Tie Jun Cui, and J. B. Pendry,
Phys. Rev., **X4** 021003 (2014).

382. Controlling light on the nanoscale
J.B. Pendry
Progress in electromagnetics research – PIERS, **147**, 117-126 (2014).

383. van der Waals interactions at the nanoscale and the effects of nonlocality
Yu Luo , Rongkuo Zhao, and J. B. Pendry,
Proceedings of the National Academy of Sciences, **111**, 18422-7 (2014)

384. Transforming the optical landscape
J. B. Pendry, Yu Luo, Rongkuo Zhao
Science **348** 521-4 (2015).

385. Coherent Four-Fold Super-Resolution Imaging with Composite Photonic−Plasmonic Structured Illumination
Antonio I. Fernández-Domínguez, Zhaowei Liu, and John B. Pendry
ACS Photonics, **2**, 341-8 (2015)

386. Transformation Optics Applied to Van der Waals Interactions
Rongkuo Zhao, Yu Luo, J.B. Pendry
Chinese Science Bulletin **61** 58-7 (2016)

387. Designing plasmonic gratings with Transformation optics
Matthias Kraft, Yu Luo, S.A. Maier and J.B. Pendry
Physics Review **X5** 031029 (2015)

388. Reply to Comment on "Surface Plasmons and Nonlocality: A Simple Model" Yu Luo, A.I. Fernandez-Dominguez, Aeneas Wiener, et al.
Phys. Rev. Lett. 239402 (2015)

389. Graphene, plasmons and transformation optics
P.A. Huidobro, M. Kraft, Ren Kun, et al.
J. Opt. **18** 44024-44024 (2016).

390. Bianisotropy and Magnetism in Plasmonic Gratings
M. Kraft, A. Braun, Yu Luo, et al.
ACS Photonics **3** 764-769 (2016).

391. Graphene as a Tunable Anisotropic or Isotropic Plasmonic Metasurface
P.A. Huidobro, M. Kraft, S.A. Maier, et al.
ACS Nano **10** 5499-5506 (2016).

392. Transformation Optics: A Time- and Frequency-Domain Analysis of Electron-Energy Loss Spectroscopy
M. Kraft, Yu Luo, J.B. Pendry
Nano Letters **16** 5156-5162 (2016).

393. Phonon-assisted heat transfer between vacuum-separated surfaces
J.B. Pendry, K. Sasihithlu, R.V. Craster
Physical Review **B94** 075414 (2016).

394. Low frequency plasmons in thin-wire structures: a commentary
J.B. Pendry
Journal of Physics-Condensed Matter **28** 481002 (2016).

395. Van der Waals Force Assisted Heat Transfer
K. Sasihithlu, J.B. Pendry, R.V. Craster
Zeitschrift Fur Naturforschung Section A-A Journal Of Physical Sciences, **72**, 181-8 (2017).

396. Tunable plasmonic metasurface for perfect absorption
P.A. Huidobro, S.A. Maier, J.B. Pendry
EPJ Applied Metamaterials, **4**, aricle 6 (2017).

397. Radial anisotropy from a geometric viewpoint: Topological singularity and effective medium realization
Zhang, Yong-Liang; Pendry, John B.; Lei, Dang Yuan
Physical Review **B96** 035430 (2017).

398. Spatiotemporal Dynamics and Control of Strong Coupling in Plasmonic Nanocavities
Demetriadou, Angela; Hamm, Joachim M.; Luo, Yu; et al.
ACS Photonics, **4,** 2410-2418, (2017).

399. Compacted dimensions and singular plasmonic surfaces
Pendry, J. B.; Huidobro, Paloma Arroyo; Luo, Yu; et al.
Science **358** 915-7 (2017).