

Publication list by Per-Simon Kildal

The most cited articles in my carrier are gathered in the first section below. The most important publications related to measurements in reverberation chambers and small antennas are gathered in the second section and are in addition marked with ** in the year-by-year list behind.

Book

1. P.-S. Kildal, Foundations of Antennas - A Unified Approach, published by Studentlitteratur, Lund, Sweden (<http://www.studentlitteratur.se/antennas>, see also www.amazon.com).
2. J. Volakis, Antenna Engineering Handbook, Chapter by Kildal and Orlenius entitled "Multipath Techniques for Handset/Terminal Antennas", McGraw-Hill, June 2007.

Most important publications

Twelve most cited articles (citations in Aug 2005).

- [1] P.-S. Kildal, "Artificially soft and hard surfaces in electromagnetics", *IEEE Trans. Antennas Propagat.*, Vol. 38, No. 10, pp. 1537-1544, Oct. 1990.(97 citations)
- [2] P.-S. Kildal, "Definition of artificially soft and hard surfaces for electromagnetic waves", *Electronic Letters*, Vol. 24, No. 3, pp. 168-170, 4th February 1988.(45 citations)
- [3] Per-Simon Kildal, Ahmed Kishk, Audun Tengs, "Reduction of forward scattering from cylindrical objects using hard surfaces", *IEEE Trans. Antennas Propagat.*, Vol. 44, No. 11, pp. 1509-1520, Nov. 1996 (Kishk is with University of Mississippi) (20 citations)
- [4] U. Frisk, M. Hagström, ..., P.-S. Kildal et al (49 authors), "The Odin satellite: I. Radiometer Design and Test", *Astronomy & Astrophysics*, Vol. 402, No. 3, May II, pp.1.27-1.34, 2003. (18 citations)
- [5] P.-S. Kildal, A. Kishk and Z.Sipus, "Asymptotic Boundary Conditions for strip-loaded and corrugated surfaces", *Microwave and Optical Technology Letters*, Vol. 14, No. 2, pp. 99-101, Febr., 1997.(Kishk is with University of Mississippi) (16 citations)
- [6] P.-S. Kildal, "The effects of subreflector diffraction on the aperture efficiency of a conventional Cassegrain antenna - An analytical approach", *IEEE Trans. Antennas Propagat.*, Vol. AP-31, No. 6, pp. 903-909, Nov. 1983.(16 citations)
- [7] P.-S. Kildal, "Synthesis of multi-reflector antennas by kinematic and dynamic ray tracing", *IEEE Trans. Antennas Propagat.*, Vol. 38, No.10, pp. 1587-1599, Oct.1990. (**S.A. Schelkunoff Transactions Prize Paper Award for the best paper in 1990**) (15 citations)
- [8] P.-S. Kildal and E. Lier, "Hard horns improve cluster feeds of satellite antennas", *Electronics Letters*, 14th April 1988, Vol. 24, No. 8, pp. 491-492. (13 citations)
- [9] P.-S. Kildal and S.A. Skyttemyr, "Dipole-disk antenna with beamforming ring", *IEEE Trans. Antennas Propagat.*, Vol. AP-30, No. 4, July 1982, pp. 529-534.(**has been translated to Chinese**)(12 citations)
- [10] P.-S. Kildal, L. Baker, T. Hagfors, "The Arecibo upgrading: Electrical design and expected performance of the dual-reflector feed system", **invited paper in Proceedings of IEEE**, Vol. 82, No. 5, pp 714-724, May 1994 (Baker and Hagfors were with Cornell University) (11 citations)
- [11] P.-S. Kildal, S. Rengarajan, and A. Moldsvor, "Analysis of nearly cylindrical antennas and scattering problems using a spectrum of two dimensional solutions", *IEEE Transactions on Antennas and Propagation*, Vol. 44, No. 8, pp. 1183-1192, August 1996. (Rengarajan is with California State University, Moldsvor is with University in Karlstad) (11 citations)
- [12] P.-S. Kildal, "Radiation characteristics of the EISCAT VHF parabolic cylinder antenna", *IEEE Trans. Antennas Propagat.*, Vol. AP-32, No. 6, pp. 541-552, June 1984. (**R.W.P. King Award Paper 1985**). (5 citations)

List of publications related to measurements in reverberation chambers and small antennas:

- [1] **K. Rosengren, P.-S. Kildal, "Characterization of antennas for mobile and wireless terminals in reverberation chambers: Improved accuracy by platform stirring", *Microwave and Optical Technology Letters*, 20 September 2001 (K. Rosengren is with Flextronics Design, Kalmar)
- [2] **K. Rosengren, P.-S. Kildal, "Study of distributions of modes and plane waves in reverberation chambers for characterization of antennas in multipath environment", *Microwave and Optical Technology Letters*, 20 September 2001 (K. Rosengren is with **Flextronics Design**, Kalmar)
- [3] **P.-S. Kildal, C. Carlsson, J. Yang, "Measurement of free space impedances of small antennas in reverberation chambers", *Microwave and Optical Technology Letters*, Vol 32, No 2, pp112-115, January 2002 (C.

Carlsson is with Bluetest AB)

- [4] J. Yang, J. Carlsson, P-S. Kildal, C. Carlsson, "Calculation of self-impedance and radiation efficiency of a dipole near a lossy cylinder with arbitrary cross section by using the moment method and a spectrum of two-dimensional solutions", *Microwave and Optical Technology Letters*, Vol 32, No 2, pp 108-112, January 2002
- [5] **P-S. Kildal, K. Rosengren, J. Byun, J. Lee, "Definition of effective diversity gain and how to measure it in a reverberation chamber", *Microwave and Optical Technology Letters*, Vol. 34, No 1, pp. 56-59, July 5, 2002. (**J. Byun and J. Lee is with Samsung, South Korea**)
- [6] **P-S. Kildal, C. Carlsson, "Detection of a polarization imbalance in reverberation chambers and how to remove it by polarization stirring when measuring antenna efficiencies", *Microwave and Optical Technology Letters*, Vol. 32, No 2, pp. 145-149, July 20, 2002 (C. Carlsson is with Bluetest AB)
- [7] **M. Bäckström, O. Lundén, P-S. Kildal, "Reverberation chambers for EMC susceptibility and emission analyses", *Review of Radio Science 1999-2002*, pp. 429-452. (Bäckström and Lundén are with Swedish Defense Research Center, FOI, Linköping)
- [8] **P-S. Kildal, K. Rosengren, "Electromagnetic analysis of effective and apparent diversity gain of two parallel dipoles", *IEEE Antennas and Wireless Propagation Letters*, Vol. 2, No. 1, pp 9-13, 2003 (K. Rosengren is with Flextronics Design, Kalmar)
- [9] **U. Carlberg, P-S. Kildal, A. Wolfgang, O. Sotoudeh, C. Orlenius, "Calculated and measured absorption cross sections of lossy objects in reverberation chamber", *IEEE Transactions on Electromagnetic Compatibility*, Vol. 46 No. 2, May 2004.
- [10] **P-S. Kildal and K. Rosengren, "Correlation and capacity of MIMO systems and mutual coupling, radiation efficiency and diversity gain of their antennas: Simulations and measurements in reverberation chamber", *IEEE Communications Magazine*, vol. 42, no.12, pp. 102-112, Dec. 2004 (K. Rosengren is with Flextronics Design, Kalmar)
- [11] **K. Rosengren and P-S. Kildal, "Radiation efficiency, correlation, diversity gain, and capacity of a six monopole antenna array for a MIMO system: Theory, simulation and measurement in reverberation chamber", *Proceedings IEE, Microw. Antennas Propag.* Vol. 152, No. 1, pp 7-16, February 2005 (K. Rosengren is with Flextronics Design, Kalmar)
- [12] **U. Carlberg, P-S. Kildal, and J. Carlsson, "Study of antennas in reverberation chamber using method of moments with cavity Green's function calculated by Ewald summation", *IEEE Trans. Electromagn. Compat.*, vol. 47, no. 4, pp. 805-814, Nov. 2005.
- [13] **R. Olsson, P-S. Kildal, S. Weinreb, "The Eleven antenna: a compact low-profile decade bandwidth dual polarized feed for reflector antennas", *IEEE Transactions on Antennas and Propagation*, vol. 54, no. 2, pt. 1, pp. 368-375, Feb. 2006 (Sander Weinreb is with **California Institute of Technology**).
- [14] **K. Rosengren, J. Carlsson, and P-S. Kildal, "Maximizing the effective diversity gain of two parallel dipoles by optimizing the source impedance", to appear in *Microwave and Optical Technology Letters*, Mar. 2006 (K. Rosengren is with Flextronics Design, Kalmar)

Three important conference papers related to measurements in reverberation chamber:

- [15] **R. Bourhis, C. Orlenius, G. Nilsson, S. Jinstrand and P-S. Kildal, "Measurements of realized diversity gain of active DECT phones and base-stations in a reverberation chamber" (Nilsson and Jinstrand are with **Ascom Tateco AB**), *IEEE AP-S International Symposium*, Monterey, California, June 2004
- [16] **C. Orlenius, N. Serafimov and P-S. Kildal, "Procedure for measuring radiation efficiency in downlink band for active mobile phones in a reverberation chamber" (N. Serafimov is with **Perlos AB**), *IEEE AP-S International Symposium*, Columbus, Ohio, June 2003 (about receiver sensitivity).
- [17] **C. Orlenius, P-S. Kildal, and G. Poilasne, "Measurements of total isotropic sensitivity and average fading sensitivity of CDMA phones in reverberation chamber" (Orlenius is with Bluetest AB, Gothenburg, Sweden, Poilasne is with **Kyocera Wireless Corp.**, San Diego, CA, USA), *IEEE AP-S International Symposium*, Washington D.C., 3-8 July 2005.

Journal articles and letters year by year

1980-84:

- [JA1] P-S. Kildal and E. Sørngård, "Circularly polarized feed for cylindrical parabolic reflector antennas", *IEEE Trans. Antennas Propagat.*, Vol. AP-28, No. 2, pp. 210-215, March 1980.
- [JA2] P-S. Kildal, "Discrete phase-steering by permuting pre-cut phase cables", *IEEE Proc.*, Vol. 129, MOA, No. 4, August 1981, pp. 218-220.
- [JA3] P-S. Kildal, "On the accuracy of physical optics", *IEEE Trans. Antennas Propagat.*, Vol. AP-30, No. 3, pp. 509-512, May 1982.

- [JA4] P-S. Kildal and S.A. Skyttemyr, "Dipole-disk antenna with beamforming ring", IEEE Trans. Antennas Propag., Vol. AP-30, No. 4, July 1982, pp. 529-534.(has been translated to Chinese)
- [JA5] G. Schroer, T. Hagfors and P-S. Kildal, "VHF-Radarantenne zur Messung inkoh_renter Streustrahlung in der Ionosphäre", Micro-wellen Magazin, Vol. 8, No. 5, 1982, pp. 545-551.
- [JA6] T. Hagfors, P-S. Kildal, H.J. Kärcher, B. Liesenkötter, and G. Schröer, "VHF parabolic cylinder antenna for incoherent scatter radar research", Radio Science, Vol. 17, No. 6, pp.1607-1621, Nov.-Dec. 1982.
- [JA7] P-S. Kildal, "Combined E- and H-plane phase-centers of antenna feeds", IEEE Trans. Antennas Propag., Vol. AP-31, No. 1, pp. 199-202, January 1983.
- [JA8] P-S. Kildal, "The effects of subreflector diffraction on the aperture efficiency of a conventional Cassegrain antenna - An analytical approach", IEEE Trans. Antennas Propag., Vol. AP-31, No. 6, pp. 903-909, Nov. 1983.
- [JA9] P-S. Kildal, "Asymptotic approximations of radiation integrals - endpoint and double endpoint diffraction", Radio Science, Vol. 19, No. 3, pp. 805-811, May-June 1984.
- [JA10] K. Sundhakar Rao and P-S. Kildal, "A study of the diffraction and blockage effects on the efficiency of the Cassegrain antenna", Can. Elec. Eng. J., Vol. 9, pp. 10-15, No. 1, 1984.
- [JA11] P-S. Kildal, "Radiation characteristics of the EISCAT VHF parabolic cylinder antenna", IEEE Trans. Antennas Propag., Vol. AP-32, No. 6, pp. 541-552, June 1984. (R.W.P. King Award Paper 1985).
- [JA12] P-S. Kildal, "Aperture efficiency and line feed phase center parabolic cylindrical reflector antenna", IEEE Trans. Antennas Propag., Vol. AP-32, No. 6, pp. 553-561, June 1984. (R.W.P. King Award Paper 1985).
- [JA13] P-S. Kildal, "A formula for efficient computation of radiation from a current source in proximity to cylindrical scatters", IEEE Trans. Antennas Propag., Vol. AP-32, No. 7, pp. 754-757, July 1984.
- [JA14] P-S. Kildal, "Diffraction corrections to the cylindrical wave radiated by a linear array feed of a cylindrical reflector antenna", IEEE Trans. Antennas Propag., Vol. 32, No. 10, pp. 1111-1116, Oct. 1984.
- [JA15] P-S. Kildal and K. Jakobsen, "Scalar horn with shaped lens improves Cassegrain efficiency", IEEE Trans. Antennas Propag., Vol. 32, No. 10, pp.1094-1100, October 1984.
- [JA16] P-S. Kildal, "Comments on 'Synthesis of offset dual shaped subreflector antennas for control of Cassegrain aperture distribution'", (Comments on a paper by V. Galindo-Israel and R. Mittra), IEEE Trans. Antennas Propag., Vol. 32, No. 10, pp. 1142-1145, October 1984.
- [JA17] P-S. Kildal, K. Jakobsen and K. Sudhakar Rao, "Meniscus lens-corrected corrugated horn: An efficient feed for a Cassegrain antenna", IEE Proc., MOA, Part H, No. 6, pp. 390-394, Dec. 1984.

1985-89:

- [JA18] P-S. Kildal, "Comments on 'Phase center calculation of reflector antenna feeds'", (Comments on a paper by K. Sudhakar Rao and L.Shafai), IEEE Trans. Antennas Propag., Vol. AP-33, No. 5, pp. 579-580, May 1985.
- [JA19] P-S. Kildal, "Factorization of the feed efficiency of parabo-loids and Cassegrain antennas", IEEE Trans. Antennas Propag., Vol. Ap-33, No. 8, pp.903-908, Aug. 1985. (has been translated to Chinese)
- [JA20] P-S. Kildal, "A small dipole-fed resonant reflector antenna with high efficiency, low cross polarizaton and low sidelobes", IEEE Trans. Antennas Propag., Vol. AP-33, No. 12, pp. 1386-1391, Dec. 1985.
- [JA21] P-S. Kildal, "Study of element patterns and excitations of the line feeds of the spherical reflector antenna in Arecibo", IEEE Trans. Antennas Propag., Vol. AP-34, No. 2, pp. 197-207, Feb. 1986.
- [JA22] P-S. Kildal, "The hat feed: A dual-mode rear-radiating wave-guide antenna having low cross-polarization", IEEE Trans. Antennas Propag., Vol. AP-35, No. 9, pp. 1010-1016, Sept. 1987.
- [JA23] P-S. Kildal, E. Olsen and J.A. Aas, "Losses, sidelobes and cross polarization caused by feed-support struts in reflector antennas; Design curves", IEEE Trans. Antennas Propag., Vol. AP-36, No. 2, pp. 182-190, February 1988.
- [JA24] P-S. Kildal, "Definition of artificially soft and hard surfaces for electromagnetic waves", Electronic Letters, Vol. 24, No. 3, pp. 168-170, 4th February 1988.
- [JA25] P-S. Kildal, "A Gaussian beam model for aperture-controlled and flare-angle controlled corrugated horn antennas", IEE Proceedings, Part H, MOA, Vol. 135, No. 4, Aug. 1988, pp. 237-240.
- [JA26] P-S. Kildal, "Bandwidth of square hard horn", IEE Proceedings Part H, MOA, Vol. 135, No. 4, pp. 275-278, Aug. 1988.
- [JA27] P-S. Kildal, T. Pettersen, E. Lier and J.A. Aas, "Reflectors and feeds in Norway", IEEE Antennas and Propagation Society's Newsletter, April 1988 and the Norwegian Journal Telektronikk, No. 2-3, 1988.
- [JA28] P-S. Kildal and E. Lier, "Hard horns improve cluster feeds of satellite antennas", Electronics Letters, 14th April 1988, Vol. 24, No. 8, pp. 491-492.

- [JA29] E. Lier and P-S. Kildal, "Soft and hard horn antennas", IEEE Trans. Antennas Propagat., Vol. 36, No. 8, pp. 1152-1157, Aug. 1988.
- [JA30] P-S. Kildal, "Laws of geometrical optics mapping in multi-reflector antennas with application to elliptical apertures", IEE Proceedings, Part H, MOA, No. 6, pp. 445-453, Dec. 1989. (See also Erratum published in Vol. 137, Pt. H, No. 2, p152, April 1990.)
- [JA31] P-S. Kildal, S.A. Skyttemyr, "Diffraction analysis of a proposed dual-reflector feed for the spherical reflector antenna of the Arecibo Observatory", Radio Science, Vol. 24, No. 5, pp. 601-617, Sept.-Oct. 1989.
- [JA32] T. Ulversøy and P-S. Kildal, "Radiation from slots in artificially soft and hard cylinders", IEEE Trans. Antennas Propagat., Vol. AP-37, No. 12, pp. 1628-1632, Dec. 1989.
- [JA33] T. Ulversøy and P-S. Kildal, "Improved element patterns for the line feeds of the spherical reflector antenna in Arecibo", IEEE Trans. Antennas Propagat., Vol. AP-37, No. 12, pp. 1624-1627, Dec. 1989.
- [JA34] T. Cwik and P-S. Kildal, "A study of three techniques used in the diffraction analysis of dual-shaped reflectors", IEEE Trans Antennas Propagat., Vol. AP-37, No. 8, pp. 979-983, Aug. 1989.

1990

- [JA35] P-S. Kildal and J. Stamnes, "Asymptotic transition region theory for edge diffraction. Part 1: Tracing transition regions via reflectors", IEEE Trans. Antennas Propagat., Vol.38, No. 9, pp. 1350-1358, Sept. 1990.
- [JA36] P-S. Kildal, "Asymptotic transition region theory for edge diffraction. Part 2: Calculation of diffraction losses in multi-reflector antennas", IEEE Trans. Antennas Propagat, Vol. 38, No. 9, pp. 1359-1365, Sept. 1990.
- [JA37] P-S. Kildal, "Diffraction analysis of line feeds for spherical reflectors", IEEE Trans. Antennas Propagat., Vol. 38, No.9, pp.1366-1373, Sept. 1990.
- [JA38] P-S. Kildal, "Analysis of numerically specified multireflector antennas by kinematic and dynamic ray tracing", IEEE Trans. Antennas Propagat., Vol. 38, No.10, pp. 1600-1606, Oct. 1990.
- [JA39] P-S. Kildal, "Synthesis of multireflector antennas by kinematic and dynamic ray tracing", IEEE Trans. Antennas Propagat, Vol. 38, No.10, pp. 1587-1599, Oct.1990. (S.A. Schelkunoff Transactions Prize Paper Award)
- [JA40] P-S. Kildal, "Artificially soft and hard surfaces in electro-magnetics", IEEE Trans. Antennas Propagat., Vol. 38, No. 10, pp. 1537-1544, Oct. 1990.

1991-92

- [JA41] P-S. Kildal, L. Baker and T. Hagfors, "Development of a dual-reflector feed for the Arecibo radio telescope", IEEE Antennas and Propagation Magazine (feature article), Vol 33, No 5, p12-18, October 1991.
- [JA42] P-S. Kildal, "A new approach to the synthesis of reflector antennas", Radio Science, Vol. 26, No. 2, pp. 614-623, March-April 1991
- [JA43] F. S. Johansson, L. R. Lagerholm, and P-S. Kildal, "Frequency-scanned reflection gratings with integrated polarizer", IEEE Transactions on Antennas and Propagation, vol. 40, 3, pp. 331-334, 1992.
- [JA44] A. Moldsvor and P-S. Kildal, "Analysis of aperture blockage in reflector antennas by using obstacle-located blockage currents", IEEE Transactions on Antennas and Propagation, vol. 40, 1, pp. 100-102, 1992.
- [JA45] A. Moldsvor and P-S. Kildal, "Systematic approach to control feed scattering and multiple reflections in symmetrical primary-fed reflector antennas", IEE Proceedings Part H, vol. 139, 1, pp. 65-71, 1992.
- [JA46] W. Zieniutycz and P-S. Kildal, "Study of wall region and dielectric losses in a square hard horn", IEE Proceedings Part H, vol. 139, 2, pp. 139-142, 1992. (Zieniutycz is with University of Gdansk)

1993

- [JA47] K. Forooghi and P-S. Kildal, "Radiation pattern of a slotted waveguide array radiating between finite height baffles in terms of a spectrum of two dimensional solutions", IEE Proceedings Part H, vol. 140, 1, pp. 52-58, 1993.
- [JA48] K. Forooghi, P-S. Kildal, and S. R. Rengarajan, "Admittance of an isolated waveguide-fed slot radiating between baffles using a spectrum of two-dimensional solutions", IEEE Transactions on Antennas and Propagation, vol. 41, 4, pp. 422-428, 1993. (Rengarajan is with California State University)
- [JA49] K. Jaldehag, P-S. Kildal, and B. Rönnäng, "Dual band reflector feed system for classical Cassegrain radio telescopes", IEEE Transactions on Antennas and Propagation, vol. 41, 3, pp. 325-333, 1993. (Jaldehag and Rönnäng are with Onsala Space observatory)
- [JA50] P-S. Kildal, M. Johansson, T. Hagfors, and R. Giovanelli, "Analysis of a cluster feed for the Arecibo tri-reflector system using forward ray tracing and aperture integration", IEEE Transactions on Antennas and Propagation, vol. 41, 8, pp. 1019-1025, 1993. (Hagfors and Giovanelli are with Cornell University)

1994

- [JA51] J. Hirokawa, J. Wettergren, P.-S. Kildal, M. Ando, and N. Goto, "Calculation of external aperture admittance and radiation pattern of a narrow slot cut across an edge of a sectoral cylinder in terms of a spectrum of two-dimensional solutions", *IEEE Transactions on Antennas and Propagation*, vol. 42, 9, pp. 1243-1249, 1994. (Hirokawa, Ando and Goto are with Tokyo Institute of Technology)
- [JA52] P.-S. Kildal, L. Baker, and T. Hagfors, "The Arecibo upgrading: Electrical design and expected performance of the dual-reflector feed system", *Proceedings of the IEEE*, vol. 82, 5, pp. 714-724., 1994. (Baker and Hagfors are with Cornell University)

1995

- [JA53] J. Carlsson and P.-S. Kildal, "Transmission through corrugated slots", *Transactions on Electromagnetic Compatibility*, vol. 37, 1, pp. 114-1121, 1995. (Carlsson is with SP)
- [JA54] A. Kishk and P.-S. Kildal, "Electromagnetic scattering from two-dimensional anisotropic objects due to oblique plane wave incidence", *Applied Computational Electromagnetics Society Journal*, vol. 10, 3, pp. 81-92, 1995. (Kishk is with Univ. of Mississippi)
- [JA55] A. Kishk and P.-S. Kildal, "Electromagnetic scattering from a circular cylinder with an anisotropic surface impedance due to an obliquely incident plane wave", *Microwave and Optical Technology Letters*, vol. 10, 3, pp. 162-165, 1995.
- [JA56] J. Wettergren and P.-S. Kildal, "Admittance of a longitudinal slot radiating into an arbitrary cylindrical structure", *IEEE Transactions on Antennas and Propagation*, vol. 43, 7, pp. 667-673, 1995.
- [JA57] Z. Ying, P.-S. Kildal, and A. Kishk, "A broadband compact horn feed for prime-focus reflectors", *Electronics Letters*, vol. 31, 14, pp.1114,1115, 6th July, 1995.
- [JA58] P.-S. Kildal, Z. Sipus, "Classification of Rotationally Symmetric Antennas as Types BOR_0 and BOR_1 ", *IEEE Antennas and Propagation Magazine*, Volume 37, Issue 6, p. 114, Dec. 1995

1996

- [JA59] P.-S. Kildal and M. Davis, "Characterization of near-field focusing with application to the Arecibo tri-reflector system", *IEE Proceedings Part H*, Vol. 143, No. 4, pp. 284-297, Aug. 1996. (Davis is with Cornell University)
- [JA60] P.-S. Kildal, A. Kishk, and A. Tengs, "Reduction of forward scattering from cylindrical objects using hard surfaces", *IEEE Transactions on Antennas and Propagation*, Vol. 44, No. 11, pp. 1509-1520, Nov., 1996. (Kishk is with University of Mississippi)
- [JA61] P.-S. Kildal, S. Rengarajan, and A. Moldsvor, "Analysis of nearly cylindrical antennas and scattering problems using a spectrum of two dimensional solutions", *IEEE Transactions on Antennas and Propagation*, Vol. 44, No. 8, pp. 1183-1192, August 1996. (Rengarajan is with California State University, Moldsvor is with the University in Karlstad)
- [JA62] S. Maci, S. Raffaelli, M. Leoncini, L. Borselli, and P.-S. Kildal, "Analysis of SW excitation and radiation mechanisms of a monopole antenna on a circular grounded dielectric slab with critical thickness", *IEE Proceedings Part H*, Vol 143, No. 4, pp. 335-340, 1996. (Maci et.al. are with University of Florence, Italy)
- [JA63] M. Sundberg, P. O. Risman, P.-S. Kildal, and T. Ohlsson, "Analysis and design of industrial microwave ovens using the finite difference time domain method", *Journal of Microwave Power and Electromagnetic Energy (JMPEE)*, Vol 31, No 3, pp. 142-157, 1996. (Sundberg and Olsson are with SIK, Risman is with Mikrotrans AB)
- [JA64] Z. Ying and P.-S. Kildal, "Improvement of dipole, helix, microstrip path and aperture antennas with ground planes by using corrugated soft surfaces", *IEE Proceedings Part H*, Vol. 143, No. 3, pp. 244-248, 1996.
- [JA65] Z. Ying, P.-S. Kildal, and A. Kishk, "Study of different realizations and calculation models for soft surfaces by using vertical monopole on soft disk as test bed.", *IEEE Transactions on Antennas and Propagation*, Vol. 44, No. 11, pp. 1474-1481, Nov., 1996. (Kishk is with University of Mississippi)
- [JA66] Z. Sipus, P.-S. Kildal and J. Salomonsson, "Two-dimensional analysis of bandwidth of open hard surface", *IEE Proceedings Part H*, Vol. 143., No. 6, pp. 475-481, Dec., 1996.

1997

- [JA67] J. Salomonsson, J. Hirokawa, P.-S. Kildal and A. Tengs, "A corrugated soft sector horn with different beam properties in the two principal planes" *IEE Proceedings Microwaves, Antennas and Propagation*, Vol. 144, No. 1, pp. 13-19, Feb., 1997.
- [JA68] J. Hirokawa and P.-S. Kildal, "Excitation of an untitled narrow-wall slot in a rectangular waveguide by using etched strips on a dielectric plate", *IEEE Transactions on Antennas and Propagation*, Vol. 45, No. 6, pp. 1032-1037, June, 1997. (Hirokawa is with Tokyo Inst. of Techn.)

- [JA69] J. Hirokawa, L. Manholm and P-S. Kildal, "Analysis of and untilted wire-excited slot in the narrow wall of a rectangular waveguide by including the actual external structure", IEEE Transactions on Antennas and Propagation, Vol. 45, No. 6, pp. 1038-1044, June, 1997. (Hirokawa is with Tokyo Inst. of Techn.)
- [JA70] P-S. Kildal, A. Kishk and Z.Sipus, "Asymptotic boundary conditions for strip-loaded and corrugated surfaces", Microwave and Optical Technology Letters, Vol. 14, No. 2, pp. 99-101, Febr., 1997.
- [JA71] P-S. Kildal, S. A. Skyttemyr, and A. A. Kishk, "G/T maximization of a paraboloidal reflector fed by a dipole-disk antenna with ring by using the multiple-reflection approach and the moment method", IEEE Transactions on Antennas and Propagation, Vol. 45, No. 7, pp. 1130-1139, July, 1997.
- [JA72] Z. Sipus, H. Merkel and P-S. Kildal, "Green's functions for planar soft and hard surfaces derived by asymptotic boundary conditions", IEE Proceedings Part H, Vol. 144, No. 5, pp. 321-328, Oct., 1997.
- [JA73] P-S. Kildal, "Synthesis and analysis of a dual-reflector feed for the radio telescope in Nançay", IEE Proceedings Microwaves, Antennas and Propagation, Vol. 144, No. 5, pp. 289-296, Oct., 1997.
- [JA74] P-S. Kildal and O. Rubiños-López, "A hybrid GO-Gaussian ray-beam", Microwave and Optical Technology Letters, Vol. 15, No. 5, pp. 278-282, Aug., 1997. (Rubiños López is with University of Vigo)
- [JA75] A.A. Kishk and P-S. Kildal, "Asymptotic boundary conditions for strip-loaded scatterers applied to circular dielectric cylinders under oblique incidence", IEEE Trans. Antennas Propagat., Vol. 45, No. 1, pp. 51-56, Jan., 1997.

1998

- [JA76] A. Freni, Z. Sipus and P-S. Kildal, "Analysis of strip loaded hard struts using finite element method and asymptotic strip boundary conditions", Electronics Letters, Vol. 34, No. 7, pp. 643-644, Apr., 1998. Angelo Freni is with University of Florence.
- [JA77] Z. Sipus, S. Raffaelli and P-S. Kildal, "Periodic strips on planar and circular cylindrical substrates: Exact and asymptotic analysis", Microwave and Optical Technology Letters, Vol. 17, No. 3, pp. 173-178, Feb. 1998.
- [JA78] M. Sundberg, P-S. Kildal and T. Ohlsson, "Moment method analysis of a microwave tunnel oven", J. Microwave Power and Electromagn. Energy, Vol. 33, No. 1, pp. 36-48, 1998. (Sundberg and Olsson are with SIK)
- [JA79] J. Carlsson and P-S. Kildal, "A simple method to compute crosstalk on printed circuit boards", Microwave and Optical Technology Letters, Vol.19, No. 2, pp. 87-94, Oct. 1998.
- [JA80] A. A. Kishk, P-S. Kildal, G. Manara and A. Monorchio, "An asymptotic boundary condition for corrugated surfaces and its application to calculate scattering from circular cylinders with dielectric filled corrugations", IEE Proceedings Microwaves, Antennas and Propagation, Vol. 145, No. 1, pp. 116-122, Febr. 1998. (Kishk is with University of Mississippi, Manara and Monorchio are with University of Pisa)
- [JA81] S. P. Skobelev, P-S Kildal, "Blindness removal in arrays of rectangular waveguides using dielectrically loaded hard walls", IEEE Transactions on Antennas and Propagation, Vol. 46, No. 4, pp. 546-550, April 1998. (Skobelev is with JSC "Radiophysika", Moscow)
- [JA82] Z. Sipus, P-S. Kildal, R. Leijon and M. Johansson, "An algorithm for calculating Green's functions of planar, circular cylindrical and spherical multilayer substrates", Applied Computational Electromagnetics Society Journal, , Vol. 13, No. 3, pp. 243-254, Nov. 1998.

1999

- [JA83] A. A. Kishk, P. Slättman, P-S. Kildal, "Radiation from 3D sources in the presence of 2D composite objects of arbitrary cross-sectional shape", Applied Computational Electromagnetics Society Journal, Vol. 14, No. 1, pp. 17-24, March 1999. (Kishk is with Univ. of Mississippi)
- [JA84] J. Carlsson and P-S. Kildal, "A user-friendly computer code for radiated emission and susceptibility analysis of printed circuit boards", submitted to Applied Computational Electromagnetics Society Journal, Vol. 14, No. 1, pp. 1-8, March 1999.
- [JA85] J. Yang, P-S. Kildal, "Gaussian vertex plate improves return loss and far-out sidelobes in prime-focus reflector antennas", Microwave and Optical Technology Letters, Vol. 21, No. 2, pp. 125-129, April 1999.
- [JA86] P-S Kildal, "Equivalent circuits of receive antennas in signal processing arrays", Microwave and Optical Technology Letters, Vol 21, No 4, pp. 244-246, 1999.

2000

- [JA87] Jian Yang, P-S Kildal, "Calculation of ring-shaped phase centers of feeds for ring-focus paraboloids", IEEE Transactions on Antennas and Propagation, Vol. 48, No. 4, pp. 524-528, April 2000.
- [JA88] S. P. Skobelev, P-S Kildal, "Analysis of arrays of rectangular waveguides radiating through stepwise transitions with dielectrically loaded hard walls in one plane", Journal of Communications Technology and Electronics, Vol. 45, No 9, pp 964-969, Sept 2000. (Skobelev is with JSC "Radiophysika", Moscow)

- [JA89] S. P. Skobelev, P-S Kildal, "Eigen waves of a circular waveguide with strip-loaded dielectric hard wall", *Radiotekhnika*, No 12, pp 54-57, Dec 2000. (Skobelev is with JSC "Radiophysika", Moscow)
- [JA90] S. P. Skobelev, P-S Kildal, "Performance of an array of circular waveguides with strip-loaded dielectric hard walls", *IEEE Transactions on Antennas and Propagation*, Vol. 48, No 7, pp 1106-1114, July 2000. (Skobelev is with JSC "Radiophysika", Moscow)

2001

- [JA91] **K. Rosengren, P-S Kildal, C. Carlsson, J. Carlsson, "Characterization of Antennas for Mobile and Wireless Terminals in Reverberation Chambers: Improved Accuracy by Platform Stirring", *Microwave and Optical Technology Letters*, Vol. 30, No 20, pp 391-397, Sept 2001
- [JA92] **K. Rosengren, P-S Kildal, "Study of distributions of modes and plane waves in reverberation chamber for characterization of antennas in multipath environment", *Microwave and Optical Technology Letters*, Vol. 30, No 20, pp 386-391, Sept 2001
- [JA93] N. Herscovici, Z. Sipus, P-S Kildal, "The cylindrical omnidirectional patch antenna", *IEEE Transactions on Antennas and Propagation*, Vol 49, No 12 Dec 2001, pp 1746-1753, March 2000

2002

- [JA94] **P-S. Kildal, C. Carlsson, J. Yang, "Measurement of free space impedances of small antennas in reverberation chambers", *Microwave and Optical Technology Letters*, Vol 32, No 2, pp112-115, January 2002
- [JA95] J. Yang, J. Carlsson, P-S. Kildal, C. Carlsson, "Calculation of self-impedance and radiation efficiency of a dipole near a lossy cylinder with arbitrary cross section by using the moment method and a spectrum of two-dimensional solutions", *Microwave and Optical Technology Letters*, Vol 32, No 2, pp 108-112, January 2002
- [JA96] S. Skobelev, P-S. Kildal, "Influence of hard corrugated PBG wall design on performance of conical horn antenna", *Microwave and Optical Technology Letters*, Vol 32, No 4, February 2002. (Skobelev is with JSC "Radiophysika", Moscow)
- [JA97] **P-S. Kildal, K. Rosengren, J. Byun, J. Lee, "Definition of effective diversity gain and how to measure it in a reverberation chamber", *Microwave and Optical Technology Letters*, Vol. 34, No 1, pp. 56-59, July 5, 2002. (J. Byun and J. Lee is with Samsung, South Korea)
- [JA98] **P-S. Kildal, C. Carlsson, "Detection of a polarization imbalance in reverberation chambers and how to remove it by polarization stirring when measuring antenna efficiencies", *Microwave and Optical Technology Letters*, Vol. 32, No 2, pp. 145-149, July 20, 2002
- [JA99] **M. Bäckström, O. Lundén, P-S. Kildal, "Reverberation chambers for EMC susceptibility and emission analyses", *Review of Radio Science 1999-2002*, pp. 429-452. (Bäckström and Lundén are with Swedish Defense Research Center, FOI, Linköping)
- [JA100] J. Yang, P-S. Kildal, "Presentation of the spectral electric and magnetic field integral equations used in G2DMULT for analyzing cylindrical structures of multimaterial regions", *Microwave and Optical Technology Letter*, Vol. 34, No 2, pp 88-93, July 20, 2002

2003

- [JA101] P-S. Kildal, "Measurements of mobile phone antennas in small reverberation chambers", *Automatika*, Zagreb, No 43, pp. 63-68, 1-2/2002
- [JA102] **P-S. Kildal, K. Rosengren, "Electromagnetic analysis of effective and apparent diversity gain of two parallel dipoles", **IEEE Antennas and Wireless Propagation Letters, Vol. 2, No. 1, pp 9-13, 2003**
- [JA103] U. Frisk, M. Hagström, .., P-S. Kildal et al (49 authors), "The Odin satellite: I. Radiometer Design and Test", *Astronomy & Astrophysics*, Vol. 402, No. 3, May II, pp.1.27-1.34, 2003.
- [JA104] S. Skobelev, P-S. Kildal, "Some features of hard strip-loaded conical horn antenna", *IEE Proceedings Microwaves, Optics and Antennas*, Vol. 150, No. 3 , pp. 171 -176, June 2003 (Skobelev is with Radiophysika, Moscow).
- [JA105] S. P. Skobelev, P-S. Kildal, "Analysis of conical quasi-TEM horn with a hard corrugated section", *Special Issue on Metamaterials in IEEE Transactions on Antennas and Propagation*, Vol. 51, No. 10, pp. 2723-2731, October 2003.
- [JA106] S. P. Skobelev, P-S. Kildal, "Analysis of hard strip-loaded conical horn by the method of generalized scattering matrices", *IEEE Transaction on Antennas and Propagation*, Vol. 51, No. 10, pp. 2918-2925, October 2003.
- [JA107] Jian Yang, Per-Simon Kildal, "Scattering by screw heads in reflecting surfaces and their effect on the sidelobes of reflector antennas", *Microwave and Optical Technology Letters*, Vol. 38, No. 3, pp. 213-217, 5 August 2003.

[JA108] P.-S. Kildal and A. Kishk, "EM Modeling of surfaces with STOP or GO characteristics - artificial magnetic conductors and soft and hard surfaces", *Applied Computational Electromagnetics Society Journal*, Vol. 18, No. 1, pp. 32-40, March 2003. (Kishk is with Univ. of Mississippi).

2004

[JA109] **U. Carlberg, P.-S. Kildal, A. Wolfgang, O. Sotoudeh, C. Orlenius, "Calculated and measured absorption cross sections of lossy objects in reverberation chamber", *IEEE Transactions on Electromagnetic Compatibility*, Vol. 46 No. 2, May 2004.

[JA110] J. Yang, U. Carlberg, P.-S. Kildal, and M. Ng Mou Kehn, "A fast mode analysis for waveguides of arbitrary cross section with multiple regions by using a spectrum of two-dimensional solutions and asymptotic waveform evaluation", *IEEE Transactions on Microwave Theory and Techniques*, Vol. 52, No. 6, pp 1615-1621, June 2004.

[JA111] J. Yang and P.-S. Kildal, "A fast algorithm for calculating the radiation pattern in the longitudinal plane of antennas with cylindrical structure by applying asymptotic waveform evaluation in a spectrum of two dimensional solutions", *IEEE Transactions on Antennas and Propagation*, Vol. 52, No. 7, pp 1700-1706, July 2004.

[JA112] J. Carlsson and P.-S. Kildal, "Physical asymptotic model for a conducting patch and how this enables the inclusion of dielectric substrate in a free-space moment method code", *IEE Proceedings Microwave, Antennas and Propagation*, vol. 151, no. 4, pp. 338-344, Aug 2004.

[JA113] S. P. Skobelev and P.-S. Kildal, "Some properties of an open-ended circular waveguide with one- and two-sided ideal hard walls," *Microwave and Optical Technology Letters*, vol. 43, no. 2, Oct. 2004, pp. 160 - 164.

[JA114] **P.-S. Kildal and K. Rosengren, "**Correlation and capacity of MIMO systems and mutual coupling, radiation efficiency and diversity gain of their antennas: Simulations and measurements in reverberation chamber**", *IEEE Communications Magazine*, vol. 42, no. 12, pp. 102-112, Dec. 2004.

2005

[JA115] **K. Rosengren and P.-S. Kildal, "**Radiation efficiency, correlation, diversity gain, and capacity of a six monopole antenna array for a MIMO system: Theory, simulation and measurement in reverberation chamber**", *Proceedings IEE, Microw. Antennas Propag.*, Vol. 152, No. 1, pp 7-16, February 2005. (Rosengren is with Flextronics Components, Kalmar), see also Erratum published in *Proceedings IEE, Microw. Antennas Propag.*, Vol. 153, No. 4, August 2006

[JA116] U. Carlberg, A. Eriksson, P.-S. Kildal, "Efficient computation of high Q resonator realized by thin film multilayer metal/dielectric structure", *Microwave Optical and Technology Letters*, vol. 44, no. 1, pp. 48-51, Jan 2005 (Eriksson is with Dept of Microtechnology and Nanoscience, Chalmers Univ. of Technol.).

[JA117] P.-S. Kildal, A. A. Kishk, and S. Maci, "Special issue on artificial magnetic conductors, soft/hard surfaces, and other complex surfaces" (Guest Editorial), *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 1, pp. 2-7, Jan. 2005 (Kishk is with University of Mississippi, Maci is with University of Siena, Italy).

[JA118] M. Ng Mou Kehn and P.-S. Kildal, "Miniaturized rectangular hard waveguides for use in multi-frequency phased arrays", *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 1, pp. 100-109, Jan 2005.

[JA119] S. P. Skobelev and P.-S. Kildal, "Mode-matching modeling of a hard conical quasi-TEM horn realized by an EBG structure with strips and vias", *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 1, pp. 139-143, Jan 2005.

[JA120] S. Raffaelli, Z. Sipus, P.-S. Kildal, "Analysis and measurements of conformal patch array antennas on multilayer circular cylinder", *IEEE Transactions on Antennas and Propagation*, vol. 53, no. 3, pp.1105-1113, March 2005. (Raffaelli is with Ericsson AB)

[JA121] J. Yang and P.-S. Kildal, "On the odd-even property of functions for boundary currents over kz in a spectrum of two-dimensional solutions", *IEEE Antennas and Wireless Propagation Letters*, vol. 4, 2005.

[JA122] U. Carlberg, P.-S. Kildal, and J. Carlsson, "Study of antennas in reverberation chamber using method of moments with cavity Green's function calculated by Ewald summation", *IEEE Trans. Electromagn. Compat.*, vol. 47, no. 4, pp. 805-814, Nov. 2005.

2006

[JA123] P.-S. Kildal, "Comments on 'Application of double negative materials to increase the power radiated by electrically small antennas'", *IEEE Transactions on Antennas and Propagation*, vol. 54, no. 2, pt 2, pp. 766-766, Feb. 2006.

- [JA124] R. Olsson, P.-S. Kildal, S. Weinreb, "The Eleven antenna: a compact low-profile decade bandwidth dual polarized feed for reflector antennas", IEEE Transactions on Antennas and Propagation, vol. 54, no. 2, pt. 1, pp. 368-375, Feb. 2006 (Sander Weinreb is with California Institute of Technology).
- [JA125] O. Sotoudeh, P.-S. Kildal, P. Ingvarson, and S. P. Skobelev, "Single- and dual- band multimode hard horn antennas with partly corrugated walls", IEEE Transactions on Antennas and Propagation, vol. 54, no. 2, pt. 1, pp. 330-339, Feb. 2006 (Ingvarson is with Saab Ericsson Space, Gothenburg; Skobelev is with Radiofizika, Moscow).
- [JA126] J. Carlsson and P.-S. Kildal, "Dyadic GO reflection coefficient for PEC/PMC strip surface and application to planar case for dipole radiation", to appear in Microwave and Optical Technology Letters, Mar 2006.
- [JA127] K. Rosengren, J. Carlsson, and P.-S. Kildal, "Maximizing the effective diversity gain of two parallel dipoles by optimizing the source impedance", to appear in Microwave and Optical Technology Letters, Mar. 2006. Z. Sipus, N. Burum, S. Skokic, and P.-S. Kildal, "Analysis of spherical arrays of microstrip antennas using moment method in spectral domain", IEE Proceedings Part H, Vol. 153, no. 6, pp. 533-543, Dec 2006. (Sipus, Burum, and Skokic are with the University of Zagreb, Croatia)..
- [JA128] K. Karlsson, J. Carlsson, and P.-S. Kildal, "Reverberation Chamber for Antenna Measurements: Modeling Using Method of Moments, Spectral Domain Techniques, and Asymptote Extraction", IEEE Transactions on Antennas and Propagation Vol. 54, No. 11, Part 1, pp 3106 - 3113 Nov. 2006

2007

- [JA129] E. Rajo Iglesias, M. Caiazzo, L. Inclan-Sanchez, and P.-S. Kildal, "Comparison of bandgaps of mushroom-type EBG surface and corrugated and strip-type soft surfaces", IEE Microwaves, Antennas and Propagation, Vol. 1, No. 1, pp. 184-189, Feb. 2007. (Rajo Iglesias and Inclan-Sanchez are with Univ. Carlos III of Madrid, Caiazzo is with Univ. of Siena, Italy)

Accepted

- [JA130] S. P. Skobelev, P.-S. Kildal, "Modal solutions in dual-depth longitudinally corrugated hard waveguide", accepted for publication in IEEE Proceedings - Microwaves, Antennas, and Propagation

Submitted

- [JA131] N. Herscovici, P.-S. Kildal, Z. Sipus, S. Raffaelli, "Excitations maximizing the directivity of conformal arrays on circular cylinders", submitted to IEEE Transactions on Antennas and Propagation, May 2001.
- [JA132] Eva Rajo-Iglesias, Luis Inclan-Sanchez, Per-Simon Kildal, "Comparison of bandwidths of mushroom-type EBG surfaces and corrugated and strip-type soft surfaces when used as narrow ground planes", submitted to IEEE Trans. Antennas propagat., March 2007 (Rajo is with University Carlos III of Madrid)
- [JA133] Malcolm Ng Mou Kehn, Marianna V. Ivashina, Per-Simon Kildal, Rob Maaskant, "Coupling efficiency of wideband dense focal plane array feeds for reflector antennas, Part I: Definitions and theoretical study on a hypothetical hard waveguide array", submitted to IEEE Transactions on Antennas and Propagation, May 2007 (Ivashina and Maaskant are with Astron, Ng is with University of Manitoba)
- [JA134] Marianna V. Ivashina, Malcolm Ng Mou Kehn, Per-Simon Kildal, Rob Maaskant, "Coupling efficiency of wideband dense focal plane array feeds for reflector antennas, Part II: Experimental study of Vivaldi array", submitted to IEEE Transactions on Antennas and Propagation, May 2007 (Ivashina and Maaskant are with Astron, Ng is with University of Manitoba)

Magazine and newspaper articles

1997

- [News1] "Riktad antenn minskar strålningen", Forskning och Framsteg, Nr 7, okt-nov 1997 (COMHAT AB)

1998

- [News2] "Mobiltelefoni har lyft svensk antennforskning", Elektroniktidningen, Nr 98-14, 1998 (COMHAT AB)
- [News3] "Sveriges förste EMC-doktor", Provnings och Forskning, Nr 3, 1998 (Jan Carlsson)
- [News4] "Han är Sveriges förste EMC-doktor", EMC Magazine, Nr 5, 1998 (Jan Carlsson)

1999

- [News5] "Forskar för säkrare samtal", Teknikvetenskapliga forskningsrådets årsredovisning, 1998 (Björn Lindmark)
- [News6] "Mobilantennar ny svensk miljardindustri" Ny Teknik, 1999:22 (COMHAT AB)
- [News7] "En antenn riktad mot världen", Teknik i Tiden, Nr 4, Dec 1999 (COMHAT AB)

2000

- [News8] "Billigare radiolänkar med kompakt antenn", Elektroniktidningen, Nr 3, 2000 (COMHAT AB)

- [News9] "Mobiltelefonin skapar tiotusentals nya jobb", Ny Teknik, Nr 8, 2000 (COMHAT AB)
 [News10] "Comhat i Mölndal nyanställer", Göteborgs-Posten, 2000-02-02, sid 34 (COMHAT AB)
 [News11] "Uppstickare i antennbranschen", Ny Teknik, Nr 8, sid 23, 2000 (COMHAT AB)
 [News12] "Svårt veta vad företagen gör", Ny Teknik, Nr 21, sid 24, 2000 (COMHAT AB)
 [News13] "Chalmers utvecklar billigare SAR-testare", Elektroniktidningen, Nr 15, Okt 2000 (Bluetest AB)
 [News14] "Review of - Foundation of Antennas - A unified Approach", IEEE Antennas and Propagation Magazine, Vol 42, No 5, Oct 2000 (Kildals's text book)

2001

- [News15] "Mobiltelefoner skall TCO-märkas", Metro, 2001-01-22 (Bluetest AB)
 [News16] "Svensk mätteknik vässar framtidens mobilantenner", Elektroniktidningen, Nr 2, sid 1, 22, 2001 (Bluetest AB)
 [News17] "Minimalt provrum för terminalantenner", Elektroniktidningen, Nr 2, sid 22, 2001 (Bluetest AB)
 [News18] "Hans huvud testar framtidens mobiler", Aftonbladet, , sid 44-45, 2001-05-25 (Bluetest AB)
 [News19] "Mobiler och antenner kan samarbeta bättre", Elektroniktidningen, sid 30, 2001-09-14 (Bluetest AB)
 [News20] "Hårda gränsvärden när TCO börjar märka mobiltelefoner", Ny Teknik, 2001-10
 [News21] Chalmers new measurement method for mobile phones was mentioned in the news on TV4 (Nyheterna TV4), 19 Nov 2001.
 [News22] "TCO ställer hårda krav på mobiltelefoner", Borås Tidning, sid 4, 2001-11
 [News23] "Ericsson - inte nu igen!", Ny Teknik, sid 2, 2001-12
 [News24] "TCO-märkning - affärsidé och ingen standard", Ny Teknik, sid 2, 2001-12

2002

- [News25] "Hur mycket strålar din mobiltelefon?", Provning och Forskning, sid 10-11, 2002-03
 [News26] "Västsvenska antennbolag slås ihop", Göteborgs-Posten 2002-05-25

2003

- [News27] "Strålning från mobiltelefoner", brif note with photo of Bluetest chamber in Chalmers Annual Report 2002 (<http://www.chalmers.se/HyperText/KortInfo-E.html>)

2004

- [News28] "Cheap testing of Bluetooth with Bluetest chamber (in Swedish)", Elektroniktidningen, Nr 1, p. 10, 23rd January 2004.

2005

- [News29] "Bara två av fem klarar strålningstest - men stor osäkerhet råder om riskerna med mobiltelefoni", Göteborgsposten 2005-05-11, sid 63.

2006

- [News30] "Nu står antenner högst på agenda", Ny teknik, 2006-06-07 (Chase is mentioned)
 [News31] "Forskare och entreprenör lyckad kombination", Ny teknik, 2006-06-14 (about Comhat)
 [News32] "Storslam för Chalmers från VINNOVA", press release from VINNOVA 2006-06-20 (about Chase and other VINN Excellence centers)
 [News33] "Case, ett Vinn Excellence Center på Chalmers - Intervju med Per-Simon Kildal", BusinessGöteborg, 2006-09-29
 [News34] "Omstart för Bluetest", Elektroniktidningen 2006-10-26
 [News35] "Växling gav vd-jobb", Göteborgsposten, 2006-11-02 (about Bluetest)
 [News36] "Hoppas på strålande affärer", Göteborgsposten, 2006-11-02
 [News37] "Vinnande antennforskning", Chalmers Magazine, 2006-11-24 (about Chase and Prof. Kildal)

2007

- [News38] "Mikrovåger sprider hälsa med Chase", i Business Region Göteborgs annonsbilaga till en dagstidning, 070413

Invited long presentations

1991-1993: Soft and hard surfaces

P-S. Kildal has as a distinguished lecturer of IEEE Antennas and Propagation Society during 1991-1993 given the 45 min lecture "Artificially soft and hard surfaces in electromagnetics and their application" the following places:

1. the Boston IEEE AP-S Chapter, 5 Nov. 1991

2. at University of Florence for the Italy IEEE AP-S Chapter, 5 Nov. 1991
3. at NTH, Norway Section, 2 March 1992
4. at KTH, Sweden Chapter, 14 May 1992
5. at Tokyo Institute of Technology, Tokyo Chapter, 11 September 1992
6. at The Polytechnical University in Lusanne, Swiss Chapter, 30 Nov. 1992
7. at SIEMENS, Untenschleissheim, Munich, 1 Dec. 1992
8. at University of Eindhoven, Benelux Chapter, 3 Dec. 1992
9. at ERA, London, UK Chapter, 3 Dec. 1992
10. at Telecommunications Res. Inst., Warsaw, Poland Chapter, 15 Febr. 1993
11. at Helsinki University of Technology, Finland Chapter, 17 Feb. 1993
12. at Foothill Chapter of AP/MTT, CalTech, 16 Nov. 1993
13. at Boulder Chapter of AP/MTT/GRS, University of Colorado, Boulder, 19 Nov. 1993
14. at Southeastern Michigan Trident Chapter of AP/MTT, University of Michigan, Ann Arbor, 22 Nov. 1993
15. at Amherst Chapter of AP/MTT, University of Massachusetts, Amherst, 19 April
16. at Columbus Societies of IEEE AP/MTT, Ohio State University, Columbus, 21 April
17. at Atlanta Chapter of IEEE AP/MTT, Scientific Atlanta, 26 April, 1993
18. at 10th School of diffraction and Wave Propagation, Moscow, February, 1993
19. at 23rd European Microwave Conference, Madrid, Proceedings pp. 30-33, 6-10 Sept. 1993.

1990-1992: Reflector antenna analysis and design

1. P-S. Kildal, "Recent developments in reflector antenna synthesis", invited paper at the URSI General Assembly in Prague, Aug. 1990.
2. P-S. Kildal, "Principles and conclusions of synthesis of reflector antennas", invited lecture at the 17th Antenna Symposium at Queen Mary and Westfield College, London, 11-12 April 1991.
3. P-S. Kildal, "Diffraction from edges of artificially soft and hard surfaces having polarization-independent boundary conditions for electromagnetic waves", invited presentation at progress in Electromagnetics Research Symposium (PIERS 91), Cambridge, MA, 1-5- July 1991.
4. P-S. Kildal, "Losses due to edge diffraction in reflector antennas", invited presentation at 1992 IEICE Fall Conference (Institute of Electronics, Information and Communication Engineers in Japan), Tokyo Institute of Technology, 27-30 September 1992.

1991-1993 and later: Arecibo radio telescope antenna

P-S. Kildal has as a distinguished lecturer of IEEE Antennas and Propagation Society during 1991-1993 and also later given the 45 min lecture "Development of a dual-reflector feed for the Arecibo radiotelescope" the following places:

1. the Amherst IEEE AP-S Chapter, 12 Nov. 1991
2. the Long Island IEEE AP-S Chapter, 13 Nov. 1991
3. the Paris Observatory, 10 Febr. 1992
4. at Santa Clara Chapter of AP, HP, Mt. View, CA, 15 Nov. 1993
5. at Phoenix Section of IEEE, Arizona State University, 17 Nov. 1993
6. at Electro-Science Lab, Ohio State University, Columbus, 21 April 1993
7. IEEE Section at University of Illinois, Champaign, 21 April 1993
8. University of Mississippi, Oxford, 25 April, 1993
9. 10th School of diffraction and Wave Propagation, Moscow, February, 1993
10. X International Microwave Conference, Poland, Ksiaz, Proceedings Vol. 3, pp. 11-20, 30 May-2 June, 1994.
11. at Beijing Radio Observatory in China, 1995
12. at Xidian University in China, 1995
13. Nanjing Research Institute of Electronics Technology in China 1995
14. JPL 2002, in connection with involvement in US SKA project, 2002

From 2001: Reverberation chamber techniques

P-S. Kildal has given 30-45 minutes presentation about multipath characterization of small antennas and wireless terminals in reverberation chamber these places:

1. IEEE EMC meeting in Linköping (short version)

2. SP's EMC group's meeting in Marstrand, 23 August 2001
3. SAMS meeting at SP, 26 September 2001.
4. ICECOM conference in Dubrovnik, 1 October 2001.
5. University in Kalmar, 26 October 2001.
6. Baltimore IEEE Chapter, meeting at E-tenna Inc, Baltimore, 020226
7. TDKrf Inc, Austin, Texas, 020227
8. HRL Lab, Malibu, CA, 020228
9. Qualcomm Inc, San Diego, CA, 020304
10. SER (Svenska Elektroingenjörers Riksförbund), Gothenburg, 020306
11. RIM, Waterloo, Canada, 021023
12. JPL, California, 021025
13. Brigham Young Univ, Provo, Utah, 021028
14. Univ of Utah, Salt Lake City, 021028
15. Supelec University, Paris, 021211
16. France Telecom, Paris, 021112
17. Centurion Ltd, Lincoln, Nebraska, USA, 030324
18. Swiss Fed. Institute of Technology ETH, 030409
19. Prof Arne Svensson's research group, Billingham, 031120
20. BEST course for European students at Chalmers, 040128
21. AMTA European course, Munchen, 040504-040507
22. Joint COST 273/284 Workshop at Chalmers, June 2004
23. Loughborough Antennas and Propagation Conference (LAPC), Loughborough University, UK, 050404-050405.
24. FCC (Federal Commission of Communications), Washington DC, 050701
25. Kyung Hee University, Suwon City, South Korea, 050808
26. Wireless Communications and Networking Conference, Las Vegas, 060406, contribution to half day tutorial

From 2001: Bandgap surfaces and soft and hard surfaces

Per-Simon Kildal has given 45 minutes presentations about electromagnetic bandgap materials, artificial magnetic conductors and soft and hard surfaces the following places the last years:

1. Rockwell Scientific, Thousand Oaks, California, Aug 2001
2. HRL Lab, Malibu, California, Aug 2001
3. Univ of Siena, 010918
4. ICECON conference in Dubrovnik, 010930
5. Workshop in the frame program antenna technology, Uppsala, Nov 2001
6. Baltimore IEEE Section, E-tenna, Baltimore, 020226
7. Rockwell Scientific, IEEE lecture, Thousand Oaks, 020301
8. IEEE MTT and AP Society, Thousand Oaks, 021024
9. ACES conference, Monterey, CA, USA, 030326
10. KUL, Univ of Leuven, Belgium, 030124
11. Denmark Technical University, Lyngby, 030828
12. Kyung Hee University, Suwon City, South Korea, 050808

Short courses at conferences

Course name: Foundations of Antennas and Antenna Design Using Mathcad

This half day course by Per-Simon Kildal was given at:

1. IEEE AP-S International Symposium, Orlando, July 1999.
2. AP2000 Millennium Conference, Davos, Switzerland, Apr. 2000.
3. Antenn 00 Nordic Conference, Lund, Sep. 2000.

Course name: Measuring Small Antennas and Mobile Phones in Reverberation Chambers

Prof Kildal and Charlie Orleinus (and sometimes Jan Carlsson) have given half or full day short courses about measurements in reverberation chambers based on only own material at the following conferences and companies:

1. IEEE AP-S Symposium, San Antonio, half day short course, 020616
2. Antenn 03 conference, Kalmar, full day short course, 030516, 7 participants
3. IEEE AP-S Symposium, Columbus, half day short course, 030627, 16 participants
4. Nokia, Copenhagen, half day short course, 030828, 6 participants
5. Sony Ericsson and Perlos Moteco, Lund, full day short course with chamber, 030829, 15 participants
6. INICA conference, Berlin, half day course, 030918, 4 participants
7. IEEE AP-S Int. Symposium, Monterey, CA, June 2004.
8. IEEE AP-S Int. Symposium, Washington DC, June 2005.
9. Part of ACE short course on Antenna Measurements, Madrid, 20-24 June 2005, 16 participants.
10. IEEE AP-S Int. Symposium, Albuquerque, June 2006.
11. First European Conference on Antennas and Propagation (EuCAP) in Nice 6-10 November 2006

Course name: Theory and Applications of PBG Structures Used as Artificial Magnetic Conductors and Soft and Hard Surfaces

Courses given by Per-Simon Kildal (PSK), Stefano Maci (SM) and David Sievenpiper (DS) at

1. IEEE AP-S Int. Symposium, San Antonio, Texas, June 2002 (PSK & SM, half day)
2. IEEE AP-S Int. Symp., Columbus, Ohio, June 2003 (PSK, SM & DS, full day, 25 particip.)
3. Antenn 03 conference, Kalmar, 030512 (PSK & SM, full day, 7 participants)
4. ICEEA conference, Torino, short course, 030912 (PSK & SM, 19 participants)
5. IEEE AP-S Int. Symp., Monterey, CA, June 2004 (PSK, SM & DS)
6. IEEE AP-S. Int. Symposium, Washington DC, June 2005.
7. Part of ACE short course on Metamaterials for antenna applications, Chalmers, 18-22 April, 2005, 20 participants.

Conference papers

To save space I have chosen not to include these here.

Patents and patent applications

1. 1979: “Kreuzdipolreihe mit reflektor”. Patent in Norway and W-Germany. MBB in Munich applied it to the 120m x 40m EISCAT VHF antenna in Tromsø.
2. 1984: “Dipole antenna with beam-forming ring”. Patent in Norway and UK. The invention was licensed to the Norwegian company EB and applied in their INMARSAT ship earth station between 1984 and 1996.
3. 1984: “Horn antenna with shaped lens”. Patent application in Norway. The application was withdrawn because of no industrial interest. Idea later used at MIT's Lincoln Lab., USA.
4. 1986: “Reflector with self-supported feed” (original hat antenna invention). Patents granted in Norway 1986, and later in USA, 10 more European countries and Japan. The invention was licensed to the Norwegian company NERA and used in their millimeter wave link antenna. License was in 1991 also given to German company Fissler for satellite-TV reception. Licenses were later given to Ericsson AB (1997) and Comhat AB (1998). Hat antennas are the main product of the latter company. The patent was maintained in Norway, Sweden and German till it went out in 2006.
5. 1990: “Reflector antenna panels with soft edges”, Patents applied in Sweden and later in 11 more European countries, USA, USSR and Japan. The applications were withdrawn.
6. 1991: “Blocking cylinders with hard surfaces (hard struts)”, Patents applied in Sweden, and later withdrawn.
7. 1993: “Feed for spherical reflector antenna” (candidate for upgrading of Nancay radio telescope). Patent applied in Sweden and later withdrawn.
8. 1995: “Blockagefree struts and flanges”. Patent applied in Sweden and later withdrawn.
9. 1995: “Tailored radomes”. Patents applied in Norway and later withdrawn.
10. 1996: “Reflector antenna with a self-supported feed” (improved hat antenna). Patent applied in and granted in USA. Licensed to Comhat AB and Ericsson AB. Maintained.
11. 1997: “Waveguide slot antenna”. Patent applied in Sweden and later withdrawn.
12. 1997: “Reflector antenna with improved gain and low reflection coefficient at the waveguide input” (further improvements of hat antenna). Patents applied in USA, Europa, Kina, Japan. Granted in USA till now. Licensed to Comhat AB and Ericsson AB. Maintained.
13. 2000: “A method and an apparatus for measuring the performance of antennas, mobile phones and other wireless terminals”, measurements in reverberation chamber. Patents applied in Sweden, Europe, Japan, USA. Licensed to Bluetest AB. Submitted a Continuation in parts in USA in July 2005.

14. 2001: "Strip-loaded dielectric substrates for improvements of antennas and microwave devices". Patents applied in Sweden, Europe and USA. Withdrawn August 2005. Too general and difficult to maintain and defend.
15. 2003: "Broadband multi-dipole antenna with frequency-independent radiation characteristics", antenna for US SKA project (square kilometer array). Patent applied in Sweden and PCT till now.
16. 2005: "Horn antenna", multimode hard horn antenna for cluster-fed reflectors. Patent applied in Sweden.