



TUG

Technische Universität Graz
Erzherzog-Johann-Universität

**Institut für Theoretische
Physik - Computational
Physics**

**em. Univ. Prof. Dr.
Bernhard SCHNIZER**
Petersgasse 16
A-8010 Graz

Tel.: ++43(0)316 873-8173
Fax: ++43(0)316 873-8678

schnizer@itp.tu-graz.ac.at

2011-07-26

Verzeichnis der wissenschaftlichen Arbeiten

List of Scientific Publications

1. Zur Äquivalenz des Bessel-Fourierdarstellung mit dem Randfeldfunktional des elektromagnetischen Feldes des Halbraumes.
Act. Phys. Austr., 22, 41-59 (1966).
2. Motion of a particle in a spatially homogeneous time-harmonic field.
CERN Internal report, ISR-300 LIN/66-36 (1966).
3. Revised linac beam dynamics equations. Proc. US Nat.Part.Acc. Conf., Washington, March 1967, IEEE Transact. Nucl. Sc., NS-14, 557-661 (1967).
4. "Hamiltonian" mechanics with z as independent variable. Thin lens approximation for an accelerating gap and corrections to previous equations.
CERN Internal report, ISR-300/LI/67-45 (1967).
5. Longitudinal and transverse T and S transit time coefficients.
Proc. 6 th Proton Linear Acc. Conf., Brookhaven, May 1968, Report BNL 50120 (C-54), 409-415, 1968.
6. Numerical methods. Acceleration by a gap. Chap.C.1.2b in: Linear Accelerators, Ed.: P.M.Lapostolle and A. Septier, Amsterdam 1969, North Holland Publ. Comp., pp. 823-859, (with A. Carne, P.M.Lapostolle, P. Prome).
7. General properties of fields and beam dynamics in a linac gap.
CERN 69-3, 146 p., Geneva, European Organization for Nuclear Research, 1969.
8. A new approach to proton linac beam dynamics calculations.
Act. Phys. Austr., 30, 223-241 (1969).
(= CERN internal report CERN-ISR-300/LI/69-25).

9. Hamiltonian mechanics with a space coordinate as independent variable.
Canonical thin lens approximation for an accelerating gap.
CERN 70-7, 49 p., Geneva, European Organization for Nuclear Research, 1970.

10. Cerenkov losses of a rigid cylindrical uniformly charged bunch moving in a homogeneous isotropic medium.
Act. Phys. Austr., 32, 154-168 (1970).
Erratum: ibid, 35, 398-399 (1972).

11. A simple derivation of proton linac beam dynamics equations.
Particle Accelerators 2, 141-147 (1971).

12. List of work on energy loss of charges moving through structures.
Proc. 4 th Work Meeting on Electron Ring Accelerators, Feb.4/5,
Max-Planck-Institut fuer Plasmaphysik, Garching bei Muenchen, 1971.

13. The Cerenkov field of a uniformly charged thin disc moving through a homogeneous dispersionless dielectric I.
Act. Phys. Austr. 34, 48-64 (1971).

14. Second order contributions to proton linac beam dynamics equations.
CERN internal report MPS/LIN/72-2, 1972.

14. An equivalent surface conductivity tensor for the boundary between the
15. atmosphere and the anisotropic ionosphere.
AEÜ 27, 459-462 (1973).
(with E. Ledinegg)

16. Zur VLF-Wellenausbreitung in einem zylindrischen bzw. ebenen heterogenen
17. Erde-Ionosphere-Wellenleitermodell.
Kleinheubacher Berichte 17, 295-311 (1974).
(with E. Ledinegg, W. Papousek).

17. Ein Erde-Ionosphäre-Wellenleitermodell für beliebige geographische Breite.
Kleinheubacher Berichte 18, 213-220 (1975).
(with E. Ledinegg, W. Papousek).

18. Anomalous attenuation of VLF waves passing over Greenland ice-sheet.
Kleinheubacher Berichte 18, 245-251 (1975).
(with E. Ledinegg, W. Papousek).

19. Zur Theorie der Ausbreitung von VLF-Wellen in einem ebenen, anisotropen,
inhomogenen Wellenleitermodell bei beliebigem Neigungswinkel des Erdmagnetfeldes.
AEÜ 30, 303-311 (1976).
(with E. Ledinegg, W. Papousek).

20. Das zylindrische Wellenleitermodell mit the thin-shell-Näherung.
Kleinheubacher Berichte 19, 593-600 (1976).
(with E. Ledinegg).

21. Elektromagnetische Wellenausbreitung zwischen Erde und Ionosphäre in einem sphärischen, anisotropen, nicht-homogenen Wellenleitermodell.
Act. Phys. Austr. 44, 293-313.
(with E. Ledinegg, W. Papousek).
22. Zur Bodenrückwirkung auf elektrische und magnetische Dipolantennen.
AEÜ 31, 63-66 (1977).
(with W. Papousek).
23. Bodenrückwirkung auf Systeme von Rahmenantennen.
Vorträge der NTG-Fachtagung "Antennen", Bad Nauheim, March 8-11, 1977.
NTG Fachberichte, Bd. 57, pp.22-26 (1977).
(with W. Papousek).
24. Radiation field of loop antenna arrays above ground.
Proc. Int. Conf. Antennas and Propagation, London, 28-30 Nov. 1978,
part I, pp.317-321.
(with W. Papousek).
25. Electromagnetic wave propagation in a plasma with a static magnetic field of arbitrary direction.
AEÜ 33, 249-254 (1979).
(with E. Ledinegg, W. Papousek).
26. Fictitious surface admittance along the lower boundary of the ionosphere for an arbitrary geomagnetic field.
AEÜ 33, 278-284 (1979).
(with E. Ledinegg, W. Papousek).
27. Eine Parameterstudie der TM-Modekonversion am Solarterminator bei anisotroper Ionosphäre.
AEÜ 34, 66-74 (1980).
(with E. Ledinegg, E. Schachinger).
28. Impedance characteristics of small loop antenna above a conducting half-space.
Proc. Int. URSI-Symposium 1980 on Electromagnetic Waves. Muenchen,
26-29 August 1980, pp. 313 A/1-5.
(with W. Papousek).
29. General solution of the two-dimensional heat equation for two concentric domains of different materials.
Wärme- und Stoffübertragung 14, 7-13 (1980).
(with E. Schachinger).
30. Characteristic values of dominant modes within an empty torus computed by mesh method.
Institutional report ITPR - 80011, Institut für Theoretische Physik, TU Graz, 1980. 39p.
(with J. Jaeger).
31. Microwave synchrotron radiation emitted by electrons slowly circling within a straight circular waveguide.
Act. Phys. Austr. 52, 225-241 (1980)
(with E. Farnleitner).

32. Die große Herbsttagung bleibt! Jahrestagung 1980 der ÖPG.
Phys. Blätter 37, 99-100 (1980).
33. Über den Unterschied der Modekonversion von TE- bzw. TM-Wellen beim Durchgang durch den Solarterminator.
AEÜ 35, 293-300 (1981).
(with E. Ledinegg, E. Schachinger).
34. Boderrückwirkung einer Loop-Antenne mit beliebigem Radius und beliebiger Bodenhöhe.
Antennen '82, NTG-Fachtagung Baden-Baden, 16.-19. März 1982.
NTG-Fachberichte Bd.78, VDE Verlag. pp. 145-149.
(with E. Ledinegg, W. Papousek).
35. Surface impedance concepts of electromagnetic wave propagation in layered isotropic and anisotropic media.
Radio Science 17, 1159-1167 (1982).
(with W. Papousek).
36. Boderrückwirkung einer Loop-Antenne mit beliebigem Antennenstrom.
AEÜ 37, 93-100 (1983).
(with E. Ledinegg, W. Papousek).
37. Computation of Electromagnetic Eigenfrequencies within an empty torus.
Kleinheubacher Berichte 26, 23-30 (1983).
(with R. Keil, J. Jaeger, J. Lilieg).
38. Ground reaction upon vertical loop antenna.
Int. U.R.S.I.-Symposium 1983, August 23-26, 1983, Santiago di Compostella, pp. 417-420.
(with W. Papousek).
39. Perturbation theoretic computation of toroidally uniform modes within an empty torus.
AEÜ 37, 359-365 (1983).
(with J. Lilieg, R. Keil).
40. Antenna current and radiation field of a torus antenna.
Kleinheubacher Berichte 28, 269-277 (1985).
(with W. Pascher, R. Wohlleben).
41. Calculated and measured radiation characteristics of a torus antenna above a conducting plane.
Kleinheubacher Berichte 29, 171-178 (1986).
(with W. Pascher, R. Wohlleben).
42. Theoretical and experimental investigation of a torus as primary feed in reflector antennas.
U.R.S.I. Symposium on Electromagnetic Theory, August 25-29, 1986,
Budapest, Hungary. Akademiai Kiado, Budapest. pp.722-724.
(with W. Pascher, R. Wohlleben).
43. Theoretical and experimental investigation of a torus as a primary feed in reflector antennas.
Kleinheubacher Berichte 30, 483-489 (1987).
(with W. Pascher).

44. Calculation of the Stark effect of Neon I using jl -coupled wave functions.
Zeitschr. f. Physik D6, 327-335 (1987)
(with R. Ziegelbecker).
45. Solutions of the vector Helmholtz equation and Green's tensors for the electromagnetic field.
Kleinheubacher Berichte 31, 509-516 (1988)
46. Stromverteilung auf gekreuzten Zylinderantennen.
Kleinheubacher Berichte 31,389-397 (1988)
(with E. Ledinegg, F. Schuerrer)
47. Influence of particle shape on forces in magnetic separators.
IEEE Trans. on Magnetics 25,4292-4297 (1989)
(with K. Lileg)
48. Green function for a Geiger counter of square cross section.
Kleinheubacher Berichte 32,229-238 (1989)
(with M. Regler, Ch. Erd)
49. Wire- and cathode pulses in a counter of square cross section with a thin wire as central conductor operating in limited streamer mode.
Nucl. Instruments and Methods A283,723-729 (1989)
(with Ch. Carli, Ch. Erd, G. Leder, M. Pernicka, M. Regler)
50. Green function for a Geiger Counter of Square Cross Section.
Institut fuer Theoretische Physik, TU Graz, Report ITPR-89001 (1989)
(with Ch. Carli, M. Regler, Ch. Erd)
51. Field computation in a square counter.
Kleinheubacher Berichte 33,563-572 (1990).
(with Ch. Carli)
52. Elektromagnetische Feldberechnungen aus der elektrischen Feldintegralgleichung mittels Galerkinmethode.
Kleinheubacher Berichte 33,403-412 (1990).
(with K. Lileg)
53. Symbolisches Rechnen und dessen Einsatz in Elektrodynamik und Elektrotechnik.
Kleinheubacher Berichte 34,125-134 (1991).
54. Berechnung eines Dipols mit halbkugelförmigen Endkappen, angeregt durch ein Voltage Source und einen Frill Current.
Kleinheubacher Berichte 34,321-330 (1991).
(with K. Lileg)
55. Signals generated by a uniformly moving charge in a counter.
Kleinheubacher Berichte 35, 645-655 (1992).
(with H. Schöpf)
56. Wave fronts and main field of a point charge accelerated within a plane condensor.
Proc. 1992 URSI Electromagnetic Theory Symposium. Sydney, Australia,
17-20 August 1992, pp. 489-491. (with H. Schöpf)

57. Theory describing cathode signals from charges moving in counters with a poorly conducting cathode. Proc. 1992 Wire chamber Conf. Vienna, 18-21 February 1992. Nucl.Inst.Meth. Phys. Res. A323 (1992), 338-344 (with H. Schöpf)
58. Green's function for a counter with a cathode of square cross section. Nucl.Inst.Meth. Phys. Res. A334 (1993) 409-419 (with Ch. Carli)
59. Lösung der Elektrischen Feldintegralgleichung für axial-symmetrische Antennensysteme mittels der Galerkin Methode. Kleinheubacher Berichte 37 (1994) 127-136. (with H. Schöpf)
60. New representations of Green's dyadic for the electromagnetic field. Kleinheubacher Berichte 37 (1994), 137-143. (with H. Schöpf)
- 60a. A new representation of the free space electromagnetic Green's tensor in circular cylindrical harmonics. Not to be published. Not to be quoted. 12p. (with H. Schöpf)
61. Lösung der elektrischen Feldintegralgleichung für axialsymmetrische Antennensysteme mit Galerkin Verfahren. in: Antennen, ITG-Fachtagung 12.-15. April 1994, Dresden. ITG-Fachbericht 128. vde Fachverlag Berlin und Offenbach, 1994, S.223 - 228. (with H. Schöpf, K. Lileg)
62. GALNEC, a rigorous electromagnetics code for axially symmetric configurations. Proc. 6th Int.ITGE Symp., September 26-28, 1994 Graz, S. 192-197. (with K. Lileg, H. Schöpf, A.A. Efanov)
63. Numerische Untersuchung einer durch einen Richtkoppler angeregten horizontalen Torusantenne über einer kreisförmigen Grundplatte. Kleinheubacher Berichte 38 (1995) 307-316 . (with H. Schöpf, A.A. Efanov)
64. Calculating and Plotting Static, Electric or Magnetic Field Distributions with Mathematica. Kleinheubacher Berichte 38 (1995) 398-408 . (with G. Schweitzer)
65. Main field and wave fronts of a point charge accelerated within a cylindrical tube. Proc. 1995 URSI Elm. Theory Symp., St.Petersburg , 23-26 May 1995 (A.E. Olver, B.S. Buldyrev, Eds.). (with H. Schöpf)
66. Mutual validation of three programs for numeric antenna computations. ACES Journal 10 (1995) 96-101 (with A. Efanov, H. Schöpf)

67. Change of Nodenumber of Waveguide Modes by Adiabatic Variation of Height and Conductivity of the Boundary.
Kleinheubacher Berichte 39 (1996) 239-248 . (with A. Wagner)

68. Theoretical Interpretation of the Adiabatic Transfer between the Na 2P_{3/2} Hyperfine Levels in Perpendicular Electric and Magnetic Fields.
Abstracts. 28 th EGAS Conf., Graz 16-19 July 1996, 189-191,
(L. Windholz, Ed.).
(with Th. Heubrandtner, M. Musso, L. Windholz)

69. Adiabatic Transfer between Hyperfine Levels in Combined Electric and Magnetic Fields.
Phys. Rev. Lett. 77 (1996) 2190-2193
(with L. Windholz, C. Krenn, G. Gwehenberger, M. Musso)

70. Mathematica-Programme zum Zeichnen statischer elektromagnetischer Feldverteilungen mittels konformer Abbildung.
telekom praxis 73 (7/96) 35-44
(with G. Schweitzer)

71. Mathematica-Programs for Calculating and Plotting Static Electromagnetic Field Distributions Found by Conformal Maps.
Proc. 7th Int.ITGE Symp., September 26-28, 1996 Graz, S. 405-410.
(with G. Schweitzer, Th. Heubrandtner)

72. Signals in a Resistive Plate Chamber
Kleinheubacher Berichte 41 (1998) 484 - 489
(with Th. Heubrandtner, H. Schöpf)

73. A simple theory for signals induced by a point charge moving in a resistive plate chamber.
Nucl.Inst.Meth. Phys. Res. A419 (1998) 721-725
(with Th. Heubrandtner, H. Schöpf)

74. A Quasi-Static Method to Compute Signals in Dielectrics with High Resistivity Generated by Slowly Moving Charges.
Proc. 1998 IGTE Symposium, Graz, 21 - 24 September 1998. 316-321.
(with Th. Heubrandtner, H. Schöpf)

75. Problems in the Electromagnetic Theory of Coaxial Counters
Kleinheubacher Berichte 42 (1999) 450-455
(with Th. Heubrandtner, J. Schulte)

76. A quasi-static method for solving transient problems in weakly conducting media.
Kleinheubacher Berichte 43 (2000) 445-451
(with Th. Heubrandtner, L. Dedek)

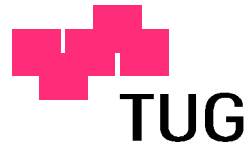
77. Computation of signals in three-dimensional resistive plate chamber
Proc. 5. Int.Conf. on Adv.Meth. in the Theory of Electrical Engineering (AMTEE'01),
Pilsen, Sept.10 -12,2001, A-11 - A-14.
(with L. Dedek, J. Dedek, Th. Heubrandtner)

78. Static electric fields in an infinite plane condensor with one or three homogeneous layers.
Th. Heubrandtner, B. Schnizer, C. Lippmann, W. Riegler.
Report CERN-OPEN-2001-074, 31 Oct. 2001
<http://web-docs.gsi.de/~lippmann/files/paper/CERN-OPEN-2001-074.pdf>
79. The quasi-static electromagnetic approximation for weakly conducting media.
Th. Heubrandtner, B. Schnizer.
Nucl.Inst.Meth. Phys. Res. A478 (2002) 444-447.
80. Static electric fields in an infinite plane condensor with one or three homogeneous layers.
Nucl. Instrum. Methods Phys. Res., A : 489 (2002) no.1-3, pp.439-443
(= CERN-EP-2002-004 ; Geneva : CERN , 8 Jan 2002)
(with Th. Heubrandtner, C. Lippmann, W. Riegler)
81. Space charge effects and induced signals in resistive plate chambers.
Nucl. Instrum. Methods Phys. Res., A : 508 (2003), pp.19 - 22
(with C. Lippmann, W. Riegler)
82. Simple Models for RPC Weighting Fields and Potentials.
Nucl. Instrum. Methods Phys. Res., A : 535 (2004) no.1-2, pp.454-457
(with Th. Heubrandtner, G. Schweitzer)
83. The quasi-static approximation for weakly conducting media and applications.
Proceedings, 11th Internat. IGTE Symp. on Num. Field Calc. in Electr. Eng., Seggau Castle,
Sept. 13 - 15, 2004 , pp. 138-143.
(with Th. Heubrandtner, W. Riegler)
- 82a. Comparison of simple models for RPC weighting fields and potentials.
Revised and enlarged version (January 2005) of ref.82 (= Nucl.Inst.Meth. Phys. Res. A 535 (2004) 554 – 557)
(with St.Rossegger, G. Schweitzer)
84. Theoretical investigations on the Stark-Zeeman effect of the $2p^2\ ^2P_{3/2}$ hyperfine structure levels in ^6Li for perpendicularly crossed fields.
Eur. Phys. J. D37, 187 – 200 (2006)
(with Ewald Rößl, Maurizio Musso)
85. Gas gain reduction due to space charge in wire chambers.
Nucl.Inst.Meth. Phys. Res. A 582 (2007) 469 – 473)
(with W. Riegler, Ch. Lippmann)

- 86u. Field representations for elliptic apertures.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Internal (unpublished) GSI report , January 17, 2008.
- 86a. Selected Topics on SIS 100 Magnet R & D
E. Fischer, P. Schnizer, P. Akishin, H.Khodzbagiyany, R. Kurnyshov, A. Mierau, B.Schnizer, P. Scherbakov.
GSI Scientific Report 2008, GSI Report 2009-1,
<http://www.gsi.de/informationen/wti/library/scientificreport2008/>
86. Magnetic field analysis for superferric accelerator magnets using elliptic multipoles and its advantages.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Proc. MT20, 20-th Magnet Technology Conference, August 27-30, 2007, Philadelphia, Pa., USA.
IEEE Trans. on Applied Superconductivity (June 2008) 18 (2) pp.1605-8.
87. Superferric rapidly cycling magnets optimized field design and measurement.
P. Schnizer, E. Fischer, H.R. Kiesewetter, T. Knapp, T. Mack, , B. Schnizer, P. Akishin, R. Kurnyshov,
P. Scherbakov.
Workshop on Accelerator Magnet Superconductors, Design and Optimisation (WAMSDO), CERN, Geneva,
Switzerland, 19-23 May 2008, ISBN 978-92-9083-325-3, pp. 189 – 196.
88. Theoretical field analysis for superferric accelerator magnets using plane elliptic and toroidal multipoles and its advantages.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Proc. 11 th European Part. Acc. Conf. (EPAC08), Genoa, June 2008, JACow, TUPP105, pp. 1773-1775.
89. Plane elliptic or toroidal multipole expansions within the gap of straight or curved accelerator magnets.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Proc. 13th Internat. IGTE Symp. on Num. Field Calc. in Electr. Eng., Graz, September 2008.
P2-16, ISBN 978-3-85125-032-9, pp.272-277.
- 89a. Superferric magnets for the SIS 100 synchrotron: Design and optimization.
P. Schnizer, P. Akishin, E. Fischer, R. Kurnishov, A. Mierau, B. Schnizer
Proc. 13th Internat. IGTE Symp. on Num. Field Calc. in Electr. Eng., Graz, September 2008.
P3-10, pp. Not on the Proc. CD ?
90. An analytical approach to space charge distortions in Time Projection Chambers.
St. Rossegger, B. Schnizer, W. Riegler.
Proc. 11th Pisa Meeting on Advanced Detectors. La Biodola, Isola d'Elba (Italy) May 24-30, 2009.
Nuclear Inst. and Methods in Physics Research, A **617** (May 2010 (1-3)) pp. 193 – 195.
(For the corresponding poster our doctoral student, St. Rossegger, received a NIM-A Young Scientist Award 2009 .)
91. Theory and application of plane elliptic multipoles for static magnetic fields.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Nucl.Inst.Meth. Phys. Res. A 607, 505 – 516 (2009)
92. Numerical analysis of the operation parameters of fast cycling superconducting magnets.
E. Fischer, P. Schnizer, R. Kurnyshov, B. Schnizer, P. Shcherbakov.
Proc. Applied Superconductivity Conf. ASC08, Chicago, Aug. 17 – 22, 2008 .
IEEE Trans. On Appl. Supercond. 19 (2009,(3, Part 2)) pp.1266-1269

93. Magnets and Magnet R&D, Status for SIS 100.
E. Fischer, P. Schnizer, A. Mierau, P. Akishin, R. Kurnyshov, B. Schnizer, P. Scherbakov.
MAC1 Meeting, March 2nd-3rd 2009 at GSI Darmstadt.
94. Measured and calculated field properties of the SIS 100 magnets described using elliptic and toroidal multipoles.
E. Fischer, P. Schnizer, A. Mierau, P. Akishin, R. Kurnyshov, B. Schnizer, P. Scherbakov.
Proc. PAC09, Vancouver, BC, Canada, May 4-8, 2009, JACow TH5PFP057, pp. 3336 – 3338.
95. FEM Analysis of fast ramped superconducting synchrotron magnets and comparison to experimental results.
Proc. 8th Int. Symposium on Electric and Magnetic Fields (EMF 2009), Mondovi (Italy), May 26-29, 2009.
Poster No.86.
96. Plane elliptic or toroidal multipole expansions for static fields. Applications within the gap of straight and curved accelerator magnet.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
The International Journal for Computation and Mathematics in Electrical Engineering (COMPEL), vol. 28, no. 4, 2009, 1044 - 1058.
97. SIS 100 Main Magnets: Test Results and Operation Parameters.
E. Fischer, P. Schnizer, A. Mierau, A. Bleile, P. Akishin, C. Heil, H. Khodzhibagiyan, R. Kurnyshov, B. Schnizer, P. Scherbakov, C. Schroeder, A. Stafaniak, S.Y. Shim.
GSI Scientific Report 2009, GSI Report 2010-1,
<http://www.gsi.de/informationen/wti/library/scientificreport2009/>
98. Superconducting SIS100 prototype magnets design, test results and final design issues.
E. Fischer, P. Schnizer, P. Akishin, R. Kurnyshov, A. Mierau, B. Schnizer, S. Y. Shim, P. Scherbakov.
IEEE T. Appl. Supercon., 20(3):218–221, June 2010.
99. Commissioning of the mole for measuring SIS100 magnets and first test results.
P. Schnizer, E. Fischer, H. Kiesewetter, F. Klos, T. Knapp, T. Mack, A. Mierau, B. Schnizer,
IEEE T. Appl. Supercon., 20(3):1977–1980, June 2010.
100. Toroidal circular and elliptic multipole expansions within the gap of curved accelerator magnets.
P. Schnizer, B. Schnizer, P. Akishin, E. Fischer.
Proc. 14th International IGTE Symposium, Graz, Austria, 19 – 22 September 2010. P1-15, pp. 81-86.
101. Impact of the beam pipe design on the operation parameters of the superconducting magnets for the SIS 100 synchrotron of the FAIR project.
E. Fischer, P. Schnizer, C. Heil, A. Mierau, B. Schnizer, S. Shim.
9th European Conf. On Applied Superconductivity (EUCAS 09), Dresden (Germany), 13 – 17 September 2009.
Journal of Physics: Conference Series 234 (2010) 032012, 22p.
DOI:10.1088/1742-6596/234/3/032012
102. Field Measurements on Curved Superconducting Magnets.
Pierre Schnizer, Egbert Fischer, Helge R. Kiesewetter, Anna Mierau, B. Schnizer.
Applied Superconductivity Conference (ASC10), Washington DC, August 1 – 6, 2010.
Poster 5LPG-03
103. Magnet Field Evaluation for the SIS 100 Main Magnets.
E. Fischer, P. Schnizer, A. Mierau, P. Akishin, F. Klos, B. Schnizer.
GSI Scientific Report 2010, 294-295, GSI Report 2011-1.
<http://www.gsi.de/informationen/wti/library/scientificreport2010/> .

104. Analytical solutions for space charge fields in TPC drift volumes.
St. Rossegger, B. Schnizer, Werner Riegler.
Nuclear Inst. and Methods in Physics Research, A **632** (2011) pp. 52 - 58.
DOI: 10.1016/j.nima.2010.12.213
105. Field Measurements on Curved Superconducting Magnets.
Pierre Schnizer, Egbert Fischer, Helge R. Kiesewetter, Anna Mierau, B. Schnizer.
IEEE Transactions on Applied Superconductivity v.21 (#3, Part 2, 2011) 1799 – 1803.
DOI: [10.1109/TASC.2010.2091390](https://doi.org/10.1109/TASC.2010.2091390)
106. Magnetic Field Description in Curved Accelerator Magnets Using Local Toroidal Coordinates.
P. Schnizer, E. Fischer, B. Schnizer
Proc. of ICAP2011, San Sebastian, Spain, WEPC060, pp.2154-2156.
107. SIS100 Dipole Magnet Optimisation and Local Toroidal Multipoles.
Pierre Schnizer, Bernhard Schnizer, Pavel Akishin, Anna Mierau, Egbert Fischer.
22nd International Conference on Magnet Technology (MT22), Marseille, France, September 12-16, 2011.
Poster IAP3-7 .
IEEE Transactions on Applied Superconductivity, v.22, #3 (June 2012) 4005105, 5p.
108. Reaction Fields of Homogeneous Magnetic Spheroids of Arbitrary Direction in a Homogeneous Magnetic Field.
A Toolbox for MRI and MRS of Heterogeneous Tissue.
Markus Kraiger, Bernhard Schnizer.
Report ITPR-2011-021, Institut für Theoretische Physik&Computational Physics. Technische Universität Graz, Austria, 2011. Revised and corrected edition: ITPR-2011-021CorRev, (January 2014):
<http://itp.tugraz.at/~schnizer/MedicalPhysics/Report/>
109. Potential and Field of a Homogeneous Magnetic Spheroid of Arbitrary Direction in a Homogeneous Magnetic Field in Cartesian Coordinates.
Markus Kraiger, Bernhard Schnizer.
COMPEL (The International Journal for Computation and Mathematics in Electrical and Electronic Engineering), v.23, #3 (June 2013) 936 – 960.
110. Some Comments to Magnetic Field Representation for Beam Dynamic Calculations.
P. Schnizer, E. Fischer, B. Schnizer.
IPAC2012, International Particle Accelerator Conf., New Orleans, Louisiana, USA, May 20-23, 2012.
Poster MOPPC057.
IPAC2012 – Proceedings, pp. 262-264, ISBN 978-3-95450-115-1
111. Potential of spheroids in a homogeneous magnetic field in Cartesian coordinates.
Markus Kraiger, Bernhard Schnizer.
IGTE'12, 15 th International IGTE Symposium on Numerical Field Calculations in Electrical Engineering, Graz, Austria, 16 to 19 September 2012. Poster P2-18
112. Potential of spheroids in a homogeneous magnetic field in Cartesian coordinates.
Markus Kraiger, Bernhard Schnizer.
Proc. IGTE'12, 15 th International IGTE Symposium on Numerical Field Calculations in Electrical Engineering, Graz, Austria, 16 to 19 September 2012, pp. 310-314, ISBN 978-3-85125-258-3
<http://itp.tugraz.at/~schnizer/MedicalPhysics/IGTE/>
113. Superconducting magnet testing for FAIR.
Pierre Schnizer, Egbert Fischer, Anna Mierau, Kei Sugita, Bernhard Schnizer.
MT-23! International Conference on Magnet Technology July 14 – 19, 2013,
The Westin Copley Place Boston, MA USA. Poster 2POAD-03.



114. Perturbation fields of arbitrary homogeneous magnetic spheroids in a homogeneous magnetic field
Markus Kraiger, Bernhard Schnizer, Rudolf Stollberger.
BMT 2013 - Dreiländertagung der Deutschen, Schweizerischen und Österreichischen Gesellschaft für Biomedizinische Technik, Graz, 19. - 21. September 2013.
Book of Abstracts pp.757-758. Poster P111.
<http://www.degruyter.com/view/j/bmte.2013.58.issue-s1-TOC/issue-files/bmte.2013.58.issue-s1-TOC.xml>

115. Novel analytical solutions of arbitrary orientated spheroids in a homogeneous magnetic field expressed in Cartesian coordinates.
Markus Kraiger, Bernhard Schnizer, Rudolf Stollberg
[ISMRM 21st Annual Meeting & Exhibition, 20-26 April 2013, Salt Lake City, Utah, USA.](#)
Poster 1668.
Proc. Intl. Soc. Mag. Reson. Med. 21 (2013)