

Publications, sorted by subject

1. Theses

- (1) D. Haroske. *Gewichtete Funktionenräume und kompakte Einbettungen*. Diplomarbeit, Friedrich-Schiller-Universität Jena, Germany, 1992.
- (2) D. Haroske. *Entropy Numbers and Approximation Numbers in Weighted Function Spaces of Type $B_{p,q}^s$ and $F_{p,q}^s$, Eigenvalue Distributions of Some Degenerate Pseudodifferential Operators*. PhD thesis, Friedrich-Schiller-Universität Jena, Germany, 1995.
- (3) D.D. Haroske. *Limiting embeddings, entropy numbers and envelopes in function spaces*. Habilitationsschrift, Friedrich-Schiller-Universität Jena, Germany, 2002.

2. Books, Booklets

- (4) D. Haroske. Some logarithmic function spaces, entropy numbers, applications to spectral theory. *Dissertationes Math.*, 373:1–59, 1998.
- (5) D.E. Edmunds and D.D. Haroske. Spaces of Lipschitz type, embeddings and entropy numbers. *Dissertationes Math.*, 380:1–43, 1999.
- (6) D.D. Haroske, Th. Runst, and H.J. Schmeißer (Editors). *Function Spaces, Differential Operators and Nonlinear Analysis - The Hans Triebel Anniversary Volume*. 474 + xii pages, Birkhäuser, Basel, 2003.
- (7) D.D. Haroske. *Envelopes and Sharp Embeddings of Function Spaces*. Chapman & Hall/CRC Research Notes in Mathematics, Vol. 437. Chapman & Hall/CRC, Boca Raton, FL, 2007.
- (8) D.D. Haroske and H. Triebel. *Distributions, Sobolev Spaces, Elliptic Equations*. EMS Textbooks in Mathematics (ETB). 303 pages, European Mathematical Society (EMS), Zürich, 2007.

3. Papers in journals

- (9) D. Haroske and H. Triebel. Entropy numbers in weighted function spaces and eigenvalue distribution of some degenerate pseudodifferential operators I. *Math. Nachr.*, 167:131–156, 1994.
- (10) D. Haroske and H. Triebel. Entropy numbers in weighted function spaces and eigenvalue distribution of some degenerate pseudodifferential operators II. *Math. Nachr.*, 168:109–137, 1994.
- (11) D. Haroske. Approximation numbers in some weighted function spaces. *J. Approx. Theory*, 83(1):104–136, 1995.
- (12) D.D. Haroske. Embeddings of some weighted function spaces on \mathbb{R}^n ; entropy and approximation numbers. A survey of some recent results. *An. Univ. Craiova, Ser. Mat. Inform.*, vol. XXIV:1–44, 1997.

- (13) D.D. Haroske. Logarithmic Sobolev spaces on \mathbb{R}^n ; entropy numbers, and some application. *Forum Math.*, 12(3):257–313, 2000.
- (14) D.E. Edmunds and D.D. Haroske. Embeddings in spaces of Lipschitz type, entropy and approximation numbers, and applications. *J. Approx. Theory*, 104(2):226–271, 2000.
- (15) D.D. Haroske. On more general Lipschitz spaces. *Z. Anal. Anwendungen*, 19(3):781–799, 2000.
- (16) D.D. Haroske and S.D. Moura. Continuity envelopes of spaces of generalised smoothness, entropy and approximation numbers. *J. Approx. Theory*, 128(2):151–174, 2004.
- (17) D.D. Haroske and H. Triebel. Wavelet bases and entropy numbers in weighted function spaces. *Math. Nachr.*, 278(1-2):108–132, 2005.
- (18) A.M. Caetano and D.D. Haroske. Continuity envelopes of spaces of generalised smoothness : a limiting case; embeddings and approximation numbers. *J. Funct. Spaces Appl.*, 3(1):33–71, 2005.
- (19) D.D. Haroske and E. Tamási. Wavelet frames in anisotropic Besov spaces. *Georgian Math. J.*, 12(4):637–658, 2005.
- (20) D.D. Haroske. Growth envelope functions in Besov and Sobolev spaces. Local versus global results. *Math. Nachr.*, 280(9-10):1094–1107, 2007.
- (21) D.D. Haroske and S.D. Moura. Continuity envelopes and sharp embeddings in spaces of generalized smoothness. *J. Funct. Anal.*, 254(6):1487–1521, 2008.
- (22) D.D. Haroske and L. Skrzypczak. Entropy and approximation numbers of embeddings of function spaces with Muckenhoupt weights, I. *Rev. Mat. Complut.*, 21(1):135–177, 2008.
- (23) D.D. Haroske. Sobolev spaces with Muckenhoupt weights, singularities and inequalities. *Georgian Math. J.*, 15(2):263–280, 2008.
- (24) D.D. Haroske and I. Piotrowska. Atomic decompositions of function spaces with Muckenhoupt weights, and some relation to fractal analysis. *Math. Nachr.*, 281(10):1476–1494, 2008.
- (25) D.D. Haroske and C. Schneider. Besov spaces with positive smoothness on \mathbb{R}^n , embeddings and growth envelopes. *J. Approx. Theory*, 161(2):723–747, 2009.
- (26) D.D. Haroske and H.-J. Schmeißer. On trace spaces of function spaces with a radial weight: the atomic approach. *Complex Var. Elliptic Equ.*, 55(8-10):875–896, 2010.
- (27) D.D. Haroske. Growth envelopes in Muckenhoupt weighted function spaces: the general case. *Funct. Approx. Comment. Math.*, 42(2):169–216, 2010.
- (28) D.D. Haroske and L. Skrzypczak. Spectral theory of some degenerate elliptic operators with local singularities, *J. Math. Anal. Appl.*, 371(1):282–299, 2010.
- (29) D.D. Haroske and L. Skrzypczak. Entropy and approximation numbers of embeddings of function spaces with Muckenhoupt weights, II. General weights, *Ann. Acad. Sci. Fenn. Math.*, 36:111–138, 2011.
- (30) D.D. Haroske and L. Skrzypczak. Entropy numbers of embeddings of function spaces with Muckenhoupt weights, III. Some limiting cases, *J. Funct. Spaces Appl.*, 9(2):129–178, 2011.
- (31) D.D. Haroske and H. Triebel. Embeddings of function spaces: A criterion in terms of difference, *Complex Var. Elliptic Equ.*, 56(10-11):931–944, 2011.

- (32) D.D. Haroske and L. Skrzypczak. Continuous embeddings of Besov-Morrey function spaces. *Acta Math. Sinica*, to appear.

4. Conference proceedings, book contributions

- (33) D. Haroske. Entropy numbers in weighted function spaces and applications. In J. Rákosník, editor, *Function Spaces, Differential Operators and Nonlinear Analysis*, pages 207–214. Proceedings of the Conference held in Paseky nad Jizerou, September, 1995, Prometheus Publishing House, 1996.
- (34) D.D. Haroske. Embeddings in spaces of Lipschitz type, entropy and approximation numbers. In V. Mustonen and J. Rákosník, editors, *Function Spaces, Differential Operators and Nonlinear Analysis*, pages 99–112. Proceedings of the Conference held in Syöte, June, 1999, Math. Inst. Acad. Sci. Czech Republic, 2000.
- (35) A.M. Caetano and D.D. Haroske. Sharp estimates of approximation numbers via growth envelopes. In D.D. Haroske, Th. Runst, and H.J. Schmeißer, editors, *Function Spaces, Differential Operators and Nonlinear Analysis - The Hans Triebel Anniversary Volume*, pages 237–244. Birkhäuser, Basel, 2003.
- (36) D.D. Haroske. Envelope functions in real interpolation spaces. A first approach. In L. De Carli and M. Milman, editors, *Interpolation Theory and Applications*, volume 445 of *Contemp.Math.*, pages 93–102. Proceedings of the Conference held in Miami, FL, March 29-31, 2006, AMS, Providence, RI., 2007.
- (37) D.D. Haroske. Singularities in Muckenhoupt weighted function spaces. Proceedings of the Conference *Function Spaces VIII* held in Będlewo, Poland, July 3-7, 2006, volume 79 of *Banach Center Publications*, pages 95-112, Polish Acad. Sci., Warsaw, 2007.
- (38) D.D. Haroske and H.-J. Schmeisser. Extrapolation of function spaces and related topics. In *Proc. NAFSA-9*, pages 271–303. Prague 2011, Acad. Sci. Czech Repub., 2011.
- (39) D.D. Haroske. Lipschitz continuity in Muckenhoupt \mathcal{A}_1 weighted function spaces, In *Function spaces IX*, volume 92 of *Banach Center Publ.*, pages 107–129, Warsaw, 2011. Polish Acad. Sci., Warsaw.
- (40) D.D. Haroske. Dichotomy in Muckenhoupt weighted function space: A fractal example. In B.M. Brown, J. Lang, and I. Wood, editors, *Spectral Theory, Function Spaces and Inequalities. New Techniques and Recent Trends*, volume 219 of *Operator Theory: Advances and Applications*, pages 69–89. Springer, Basel, 2012.

5. Papers in preparation, submitted papers

- (41) A.M. Caetano and D.D. Haroske. Traces for Besov spaces on fractal h -sets and dichotomy results, *in preparation*
- (42) M.L. Goldman and D.D. Haroske. Estimates for continuity envelopes and approximation numbers of Bessel potentials, *submitted*
- (43) D.D. Haroske and S.D. Moura. Growth envelopes in spaces of Besov-Morrey type, *in preparation*

6. Preprints, technical reports

- (44) D. Haroske. Some limiting embeddings in weighted function spaces and related entropy numbers. *Forschungsergebnisse Math/Inf/97/04*, p. 1-54, Universität Jena, Germany, 1997.
- (45) D. Haroske. Some remarks on approximation numbers in weighted function spaces. Preprint, Jena, 1997.
- (46) D.E. Edmunds and D. Haroske. Spaces of Lipschitz type, embeddings and entropy numbers. *Forschungsergebnisse Math/Inf/98/10*, p. 1-65, Universität Jena, Germany, 1998.
- (47) D.E. Edmunds and D.D. Haroske. Embeddings in spaces of Lipschitz type, entropy and approximation numbers, and applications. *Forschungsergebnisse Math/Inf/98/31*, p. 1-51, Universität Jena, Germany, 1998.
- (48) D.D. Haroske. Envelopes in function spaces - a first approach. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/16/01*, p. 1-72, Universität Jena, Germany, 2001.
- (49) D.D. Haroske and H. Triebel. Wavelet bases and entropy numbers in weighted function spaces. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/01/04*, p. 1-31, Universität Jena, Germany, 2004.
- (50) A.M. Caetano and D.D. Haroske. Continuity envelopes of spaces of generalised smoothness : a limiting case; embeddings and approximation numbers. Technical Report *Math/Inf/06/04*, p. 1-24, Universität Jena, Germany, 2004.
- (51) D.D. Haroske and E. Tamási. Wavelet frames in anisotropic Besov spaces. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/01/05*, p. 1-22, Universität Jena, Germany, 2005.
- (52) D.D. Haroske and I. Piotrowska. Atomic decompositions of function spaces with Muckenhoupt weights; an example from fractal geometry. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/06/05*, Universität Jena, Germany, 2005.
- (53) D.D. Haroske and S.D. Moura. Continuity envelopes and sharp embeddings in spaces of generalized smoothness. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/19/06*, Universität Jena, Germany, 2006.
- (54) D.D. Haroske and C. Schneider. Besov spaces with positive smoothness on \mathbb{R}^n , embeddings and growth envelopes. *Jenaer Schriften zur Mathematik und Informatik Math/Inf/02/08*, Universität Jena, Germany, 2008.
- (55) D.D. Haroske and L. Skrzypczak. Entropy and approximation numbers of embeddings of function spaces with Muckenhoupt weights, II. General weights. Bericht, Nr. 2008-4, Philipps-Universität Marburg, Germany, 2008.

7. Miscellanea

- (56) D. Haroske and H. Scharm. Pascal- und Hilbert-Matrizen. *Wurzel (Math. Schülerzeitschrift)*, 21(1):2-7, 1987. (German).
- (57) D.D. Haroske. Envelopes in function spaces. A new tool - ideas and first results. Colloquium del Departamento de Análisis Matemático Curso 1999-2000, p. 59-79, Universidad Complutense de Madrid, Spain, 2001.

- (58) A.M. Caetano and D.D. Haroske. An interview with Hans Triebel. CIM Bulletin, No. 23, p. 13-17, December 2007. Universidade de Coimbra, Portugal. *Reprinted in:* EMS Newsletter, December 2008, p. 37-40, EMS Publishing House, Zürich; *Chinese transl. in:* Mathematical Advance in Translation, 2010, vol. 29, no. 1, pp. 45-49.

8. Lecture Notes (*in German*)

- (59) Differential- und Integralrechnung I & II, 273 S., 2002
(60) Funktionentheorie, Partielle Differentialgleichungen, 134 S., 2002
(61) Interpolationstheorie, 76 S., 2003, 2007/08, 2008/09, 2010/11
(62) Distributionen, Sobolev-Räume und elliptische Differentialoperatoren, 70 S., 2004
(63) Approximationstheorie, 120 S., 2004, 2007, 2010
(64) Elliptische Differentialgleichungen, 190 S., 2005/06; 2007/08
(65) Mathematik 1 für Ingenieure, 134 S., 2009
(66) Höhere Analysis, I & II, 214 S., 2011