List of publications Jean–Paul Berrut

Refereed:

[1] Baryzentrische Formeln zur trigonometrischen Interpolation (I), *J. Appl. Math. Phys. (ZAMP)* **35** (1984) 91–105.

[2] Baryzentrische Formeln zur trigonometrischen Interpolation (II): Stabilität und Anwendung auf die Fourieranalyse bei ungleichabständigen Stützstellen, *J. Appl. Math. Phys. (ZAMP)* **35** (1984) 193-205.

[3] *Integralgleichungen und Fourier–Methoden zur numerischen konformen Abbildung* (Doctoral Thesis Nr. 7754, Zürich, 1985).

[4] A Fredholm integral equation of the second kind for conformal mapping, *J. Comput. Appl. Math.* **14** (1986) 99–110.

[5] (with M. Trummer) Equivalence of Nyström's method and Fourier methods for the numerical solution of Fredholm integral equations, *Math. Comp.* **48** (1987) 617–623.

[6] Rational functions for guaranteed and experimentally well conditioned global interpolation, *Comput. Math. Applic.* **15** (1988) 1–16.

[7] Barycentric formulae for cardinal (SINC)–interpolants, *Numer. Math.* **54** (1989) 703–718.(Erratum **55** (1989) 747.)

[8] Barycentric formulae for some optimal rational approximants involving Blaschke products, *Computing* **44** (1990) 69–82.

[9] The Čebyšev Pseudospectral Method with Preliminary Transform to the Circle for Partial Differential Equations, in: D. Greenspan and P. Rózsa, eds., *Numerical Methods* (Coll. Math. Soc. J. Bolyai Nr. 59, North-Holland, Elsevier, Amsterdam, 1991) .

[10] A formula for optimal integration in H^2, *J. Comput. Appl. Math.* **46** (1993) 199–210.

[11] A closed formula for the Čebyšev barycentric weights of optimal approximation in H^2, *Numerical Algorithms* **5** (1993) 155–163.

[12] Linear rational interpolation of continuous functions over an interval, in: W. Gautschi, ed., *Mathematics of Computation 1943–1993: a Half–Century of Computational Mathematics* (Proceedings of Symposia in Applied Mathematics, American Mathematical Society, Providence, 1994) 261–264.

[13] (with H. Mittelmann) Lebesgue constant minimizing linear rational interpolation of continuous functions over the interval, *Computers Math. Applic.* **33** (1997) 77–86.

[14] (with M. Reifenberg) Numerical solution of periodic Fredholm integral equations of the second kind by means of attenuation factors, *J. Int. Equ. Appl.* **9** (1997) 1–20.

[15] (with H. Mittelmann) Exponentially convergent linear rational interpolation between equidistant (and other) points ?, *Meth. Appl. Anal.* **4** (1997) 67–76.

[16] (with H. Mittelmann) Matrices for the direct determination of the barycentric weights of rational interpolation, *J. Comput. Appl. Math.* **78** (1997) 355–370.

[17] (with M. Reifenberg) Numerical solution of boundary integral equations by means of attenuation factors, *IMA J. Numer. Anal.* **20** (2000) 25–46.

[18] The barycentric weights of rational interpolation with prescribed poles, *J. Comput. Appl. Math.* **86** (1997) 45–52.

[19] (with R. Baltensperger and B. Noël) Exponential convergence of a linear rational interpolant between transformed Čebyšev points, *Math. Comp.* **68** (1999) 1109–1120.

[20] (with R. Baltensperger) The errors in calculating the pseudospectral differentiation matrices for Čebyšev–Gauss–Lobatto points, *Comput. Math. Applic.* **37** (1999) 41–48.

[21] (with H. Mittelmann) Rational interpolation through the optimal attachment of poles to the interpolating polynomial, *Numerical Algorithms* **23** (2000) 315–328.

[22] (with R. Baltensperger) The linear rational collocation method, *J. Comput. Appl. Math.* **134** (2001) 243–258.

[23] A matrix for determining lower complexity barycentric representations of rational interpolants, *Numerical Algorithms* **24** (2000) 17–29.

[24] (with H. Mittelmann) The linear rational collocation method with iteratively optimized poles for two-point boundary value problems, *SIAM J. Scient. Comput* **23** (2001) 961–975.

[25] (with R. Baltensperger) The linear rational collocation method for boundary value problems, *BIT* **41** (2001) 868–879.

[26] (with H. D. Mittelmann) Linear rational interpolation and its application in approximation and boundary value problems, *Rocky Mountain J. Math.* **32** (2002) 527–544.

[27] (with L. N. Trefethen) Barycentric Lagrange interpolation, *SIAM Rev* **46** (2004) 501–517.

[28] (with H. D. Mittelmann) Point shifts in rational interpolation with optimized denominator, in: J. Levesley, I.J. Anderson and J.C. Mason, eds., *Algorithms for Approximation IV, Proceedings of the 2001 International Symposium* (The University of Huddersfield, 2002) 420–427.

[29] (with R. Baltensperger and Y. Dubey) The linear rational pseudospectral method with preassigned poles, *Numerical Algorithms* **33** (2003) 53–63.

[30] (with H. D. Mittelmann) Adaptive point shifts in rational approximation with optimized denominator, *J. Comput. Appl. Math.* **164–165** (2004) 81–92.

[31] Another look at the Euler-Maclaurin formula, in: T. E. Simos and Ch. Tsitouras, eds., *ICNAAM 2004. International conference on numerical analysis and applied mathematics 2004* (Wiley-VCH, 2004) 42–45.

[32] (with H. D. Mittelmann) Optimized point shifts and poles in the linear rational pseudospectral method for boundary value problems, *J. Comput. Phys.* **204** (2005) 292–301.

[33] (with R. Baltensperger and H. D. Mittelmann) Recent Developments in Barycentric Rational Interpolation, in: M.G. de Bruin, D.H. Mache & J. Szabados, *Trends and Applications in Constructive Approximation* (International Series of Numerical Mathematics ISNM Vol. 151, Birkhäuser Basel/Switzerland, 2005) 27–51.

[34] A circular interpretation of the Euler–Maclaurin formula, *J. Comput. Appl. Math.* **189** (2006) 375–386.

[35] (with A. Welscher) Fourier and barycentric formulae for equidistant Hermite trigonometric interpolation, *Appl. Comput. Harmon. Anal.* **23** (2007) 307–320.

[36] A formula for the error of finite sinc–interpolation over a fixed finite interval, in: T. E. Simos, G. Psihoyios and Ch. Tsitouras, eds., *ICNAAM 2006. International conference on numerical analysis and applied mathematics 2006* (Wiley-VCH, 2006) 44–47.

[37] A formula for the error of finite sinc–interpolation over a finite interval, *Numerical Algorithms* **45** (2007) 369–374.

[38] A formula for the error of finite sinc–interpolation with an even number of nodes, to appear in *Numerical Algorithms*

[39] First applications of a formula for the error of finite sinc interpolation, *Numer. Math.* **112** (2009) 341–361.

Not (yet) in publicly available publications:

[1n] *Numerische Lösung der Symmschen Integralgleichung durch Fourier-Methoden* (Master's thesis, ETH Zürich, 1976).

[2n] *A pseudospectral Čebyšev method with preliminary transform to the circle: ordinary differential equations* (Report No. 252, Technische Universität München, 1990).

[3n] Quelques exemples simples d'applications de la fonction SINC en analyse numérique, in: *Les Annales du Centenaire de l'Université de Fribourg (Suisse)* (1991) 191–196.

[4n] Fascinante interpolation, *Bull. Soc. Frib. Sc. Nat.* **83** (1994) 3–20.

[5n] (with M. Reifenberg) *Solution des équations intégrales de Fredholm de seconde espèce à l'aide des facteurs d'atténuation. I. Cas général*, Report 94–5, Institut de Mathématiques, Université de Fribourg (Suisse), 1994.

[6n] (with R. Baltensperger and B. Noël) *Convergence exponentielle d'un interpolant rationnel linéaire entre des points de Čebyšev transformés*, Report 96–5, Institut de Mathématiques, Université de Fribourg (Suisse), 1996.

[7n] *Lagrange interpolation is (much) better than its reputation*, Report 01–2, Département de Math., Université de Fribourg (Suisse), 2001.

[8n] *Une formule pour l'erreur d'interpolation sinc finie*, Report 96–5, Département de Mathématiques, Université de Fribourg (Suisse), 2006.

[9n] *Interpreting and extending a theorem of Abel*, réponse à un article de l'American Mathematical Monthly, 2009.

[10n] Percées dans la résolution d'un problème mathématique, *Bull. Soc. Frib. Sc. Nat.* **97/98** (2008/09) 115–124.

Version of January 27, 2010