

Papers and things which should have been mentioned in the paper *Weierstrass and Approximation Theory*.

1. W.A.J. Luxemburg, Muntz-Szasz type approximation results and the Paley-Wiener Theorem, in *Approximation Theory II*, G.G. Lorentz, C.K. Chui and L.L. Shumaker Ed.;pg. 437-448; Academic Press, 1976.
2. R. Siegmund-Schultze, Der Beweis des Weierstrasschen Approximationssatzes 1885 vor dem Hintergrund der Entwicklung der Fourieranalysis. (German) [The proof of Weierstrass' approximation theorem of 1885 against the background of the development of Fourier analysis] *Historia Math.* **15** (1988), no. 4, 299–310.
3. K. Weierstrass, Ausgewählte Kapitel aus der Funktionenlehre. (German) [Selected chapters from function theory] Vorlesung, gehalten in Berlin 1886, mit der akademischen Antrittsrede, Berlin 1857, und drei weiteren Originalarbeiten von K. Weierstrass aus den Jahren 1870 bis 1880/86. [Lecture, held in Berlin, 1886, with the inaugural address, Berlin, 1857, and three other original works by K. Weierstrass from the years 1870 to 1880/86]. With a preface by Kurt-R. Biermann. Edited and with a foreword, comments and an appendix by R. Siegmund-Schultze. With English, French and Russian summaries. Teubner-Archiv zur Mathematik [Teubner Archive on Mathematics], 9. BSB B. G. Teubner Verlagsgesellschaft, Leipzig, 1988. 272 pp. ISBN: 3-322-00478-3
4. The method of Bourbaki (Dieudonne) and Sz.-Nagy for approximating \sqrt{x} are really the same.
5. There is a typo in the reference to the paper of Meray. The paper appeared in 1886 and not in 1986.
6. W. Sierpinski, Dowd elementarny twierdzenia Weierstrass'a i wzoru interpolacyjnego Borel'a, *Prace Mat-fiz*, t. XXII, (1911), 59-68. This paper, which seems to have been overlooked, was pointed out to me by Milan Jovanovic. E. Borel, in his book *Leçons sur les fonctions de variables réelles et les développements en séries de polynômes*, Gauthier-Villars, Paris, 1905, on p. 79-82, suggests an approximation procedure using values of f in the following way. Approximate f by $\sum_{p=0}^q f(p/q)P_{p,q}$ where $P_{p,q}$ are polynomials (independent of f , and of undetermined degree) obtained by approximating to the order $1/q^2$ the function $\phi_{p,q}$ which is the hat function, zero off $[(p-1)/q, (p+1)/q]$, piecewise continuous with knots at i/q and 1 at p/q . No construction is given for $P_{p,q}$, rather the Weierstrass theorem is evoked to claim existence thereof. Borel also says that it would be interesting to effectively calculate the $P_{p,q}$, at least for small values of p and q . Sierpinski uses this outline, as given by Borel, and explicitly constructs $P_{p,q}$ without invoking Weierstrass as Borel does. In this way, he also is proving the Weierstrass Theorem. See the reference to p. 80 in Borel by Sierpinski. In formula (7), Sierpinski gets a polynomial approximation to $|x|$ on an interval (previously he had a rational approximation). In (9), he gets an approximation to the hat function, and the rest follows. He does not mention Lebesgue who also had an approximation to $|x|$, but without error estimates. In any case, all this was superseded one year later by the appearance of Bernstein's paper where he introduced the Bernstein polynomials.