

ABOUT THE ASYMPTOTIC ERROR EXPANSION
AND RICHARDSON EXTRAPOLATION
FOR LINEAR FINITE ELEMENTS (I)

Zsuzsanna Szabó

REFERENCES

- [1] BLUM, H. AND RANNACHER, R., *Asymptotic error expansion and Richardson Extrapolation for linear finite elements*, 1986.
- [2] BÖHMER, K., *Asymptotic expansions for the discretization error in linear elliptic boundary value problems on general regions*, Math. Z. **177** (1981), 235-255.
- [3] CHEN, CH.M. AND LIN, Q., *Extrapolation of finite element approximation in a rectangular domain*, Journal of Computational Mathematics, **3** (1989), 227-233.
- [4] CIARLET, P.G., *The finite element method for elliptic problems*, North - Holland Publishing Company, Amsterdam New York - Oxford, 1978.
- [5] DUTKA, J., *Richardson extrapolation and Romberg integration*, Historia-Math. **11** (1984), 3-21.
- [6] KADLEC, I., *O reguljarnosti resenija sadači Puassona na oblasti s granicej, lokol'no podobnoj granice vypukloj Oblasti*, (russian) - Czechoslovak Math. J. **14** (1964) 386-393.
- [7] LIN Q. AND LU, T., *Asymptotic expansion for finite element approximation of elliptic problems on polygonal domains*, Sixth. Int. Conf. Comp. Math. Appl. Sci. Eng. Versailles. (1983)
- [8] LIN Q. AND WANG, J., (1984): *Some expansions of the finite element approximation*, Research Report IMS, 15 Chengdu Branch of Academia Sinica.
- [9] LIN Q. AND LU, T., *Linear finite elements with high accuracy*, Journal of Computational Mathematics. An Interantional Journal on Numerical Methods, Analysis and Applications, **3** (1985), 115-133.
- [10] LIN Q. AND ZHU, Q.D., *Local asymptotic expansion and extrapolation for finite elements*, Journal of Computational Mathematics. An Interantional Journal on Numerical Methods, Analysis and Applications, **4** (1986), 263-263.
- [11] LIN Q. AND XIE, R., *How to recover the convergent rate for Richardson extrapolation on bounded domains*, Journal of Computational Mathematics, **1** (1988), 68-79.
- [12] MARCIUK, G.I. AND ŠAIDUROV, V.V., *Creșterea preciziei soluțiilor în scheme cu diferențe*, Editura Acad. R.S.R., București 1981.
- [13] STOYAN, G. AND TAKÓ, G. (: *Numerikus módszerek 3*, ELTE, TypoTEX Budapest 1997,
- [14] SZABÓ, Zs.: *Some special problem about the matrix of the coefficients obtained by linear finite elements*, Buletin Științific, Universitatea "Petru Maior" Tg-Mureș, 1998-1999, pp. 239-246.
- [15] A.I. TIHONOV, A.A. SAMARSKIJ *Despre scheme cu diferențe omogene de ordin superior*, Doklady, A.N. CCCP **131** (1960), 514-517.
- [16] WASOW, W. *Discrete approximations to elliptic differential equations*, Z. Angew. Math. Phys. **6** (1955), 81-97.

Received: February 20, 1999

*"Petru Maior" University
Department of Mathematics
Târgu Mureş, Romania
e-mail: szabozs@uttgm.ro*