

POVZETEK

V diplomskem delu je obravnavana dimenzija prostora zlepkov polinomov v povezavi z geometrijo domene. Pri obravnavi tega problema si pomagamo z razcveti, v katere pretvorimo polinome. Na ta način lažje pridemo do pogojev gladkosti polinomov.

Za dimenzijo prostora zlepkov imamo oceno za zgornjo in spodnjo mejo. V nekaterih primerih sovpadata in dajeta tako eksplicitno formulo za izračun dimenzije. V ostalih primerih pa dobimo samo oceno. Izkaže se, da to ni tako slabo, ker včasih ne moremo natančno določiti dimenzije, ker je ta odvisna še od geometrije dane delitve.

Kot zgled je dana Morgan-Scottova triangulacija, kjer lahko natančno določimo dimenzijo glede na geometrijo.

KLJUČNE BESEDE: zlepek, razcvet, delitev, dimenzija,
Morgan-Scottova triangulacija.

KEY WORDS: spline, blissom, partition, dimension,
Morgan-Scott triangulation.

MATH. SUBJ. CLASS. (1996): 65D07, 41A10, 41A15, 41A63

Literatura

- [1] Yu Yu Feng, Jernej Kozak, Ming Zhang, On the dimension of the C^1 spline space for the Morgan-Scott triangulation from the blossoming approach, članek objavljen 1996.
- [2] Yu Yu Feng, Jernej Kozak, The blossom approach to the dimension of the bivariate spline space, članek pripravljen za objavo.
- [3] Gerald Farin, Curves And Surfaces for Computer Aided Geometric Design, Academic Press (New York) 1993.
- [4] Carl de Boor, Multivariate Piecewise Polynomials, Acta Numerical, 1993, 65-109.
- [5] Ming-Jun Lai, A characterisation theorem of multivariate splines in the blossoming form, Computer Aided Geometric Design 8 (1991), 513-521.
- [6] Lyle Ramshaw, Blossoms are polar forms, Computer Aided Geometric Design 6 (1989), 323-358.
- [7] Larry L. Schumaker, Bounds on the Dimension of Spaces of Multivariate Piecewise Polynomials, Rocky Mountain, Journal of Mathematics, 14 (1984), 251-265.
- [8] Larry L. Schumaker, On the Dimension of the space of piecewise polynomials in two variables, in Multivariate Aproximation theory, W. Schempp and K. Zeller (eds.), Birkhauser, Basel, 1979, 397-412.
- [9] Xi-Quan Shi, The singularity of Morgan-Scott Triangulation, Computer Aided Geometric Design 8 (1991), 201-206.