

Figure 2.1: 1D and 2D quadratic B-spline basis functions.

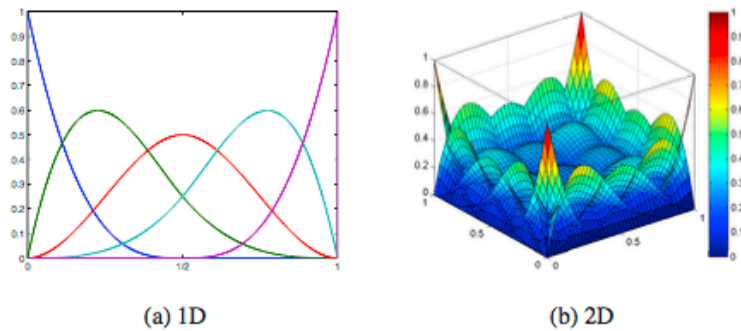


Figure 2.2: 1D and 2D cubic B-spline basis functions.

Professor Chien Hoang Thai

From: Chien Hoang Thai, “Development of isogeometric finite element methods”, Ph.D. Dissertation, Ton Duc Thang University, Ho Chi Minh City, Vietnam, March 2015

See:

<https://scholar.google.com/citations?user=N9hHhrsAAAAJ&hl=en>
https://www.researchgate.net/profile/Chien_Thai_Hoang

Division of Computational Mechanics
 Ton Duc Thang University, Ho Chi Minh City, Vietnam

Selected Publications:

H. Nguyen-Xuan, Loc V. Tran, Chien H. Thai and T. Nguyen-Thoi, “Analysis of functionally graded plates by an efficient finite element method with node-based strain smoothing”, *Thin-Walled Structures*, Vol. 54, pp 1-18, May 2012

Chien H. Thai, H. Nguyen-Xuan, N. Nguyen-Thanh, T.-H. Le, T. Nguyen-Thoi and T. Rabczuk, “Static, free vibration, and buckling analysis of laminated composite Reissner-Mindlin plates using NURBS-based isogeometric approach”, *International Journal for Numerical Methods in Engineering*, Vol. 91, No. 6, pp 571-603, August 2012

Chien H. Thai, H. Nguyen-Xuan, S.P.A. Bordas, N. Nguyen-Thanh and T. Rabczuk, "Isogeometric analysis of laminated composite plates using the higher-order shear deformation theory", *Mechanics of Advanced Materials and Structures*, October 2012

Chien H. Thai, Loc V. Tran, Dung T. Tran, T. Nguyen-Thoi and H. Nguyen-Xuan, "Analysis of laminated composite plates using higher-order shear deformation plate theory and node-based smoothed discrete shear gap method", *Applied Mathematical Modeling*, Vol. 36, No. 11, pp 5657-5677, November 2012

Chien H. Thai, A.J.M. Ferreira, E. Carrera and H. Nguyen-Xuan, "Isogeometric analysis of laminated composite and sandwich plates using a layerwise deformation theory", *Composite Structures*, Vol. 104, pp 196-214, April 2013

Loc V. Tran, Chien H. Thai and H. Nguyen-Xuan, "An isogeometric finite element formulation for thermal buckling analysis of functionally graded plates", *Finite Elements in Analysis and Design*, Vol. 73, pp 65-76, October 2013

H. Nguyen-Xuan, Chien H. Thai and T. Nguyen-Thoi, "Isogeometric finite element analysis of composite sandwich plates using a higher order shear deformation theory", *Composites Part B: Engineering*, Vol. 55, pp 558-574, December 2013

Chien H. Thai, A.J.M. Ferreira, S.P.A. Bordas, T. Rabczuk and H. Nguyen-Xuan, "Isogeometric analysis of laminated composite and sandwich plates using a new inverse trigonometric shear deformation theory", *European Journal of Mechanics – A/Solids*, Vol. 43, pp 89-108, January-February 2014

Phuc Phung-Van, Chien H. Thai, T. Nguyen-Thoi and H. Nguyen-Xuan, "Static and free vibration analyses of composite and sandwich plates by an edge-based smoothed discrete shear gap method (ES-DSG3) using triangular elements based on layerwise theory", *Composites Part B: Engineering*, Vol. 60, pp 227-238, April 2014

Chien H. Thai, S. Kulasegaram, Loc V. Tran and H. Nguyen-Xuan, "Generalized shear deformation theory for functionally graded isotropic and sandwich plates based on isogeometric approach", *Computers & Structures*, Vol. 141, pp 94-112, August 2014

Hung Nguyen-Xuan, Loc V. Tran, Chien H. Thai, Sivakumar Kulasegaram and Stephane Pierre Alain Bordas, "Isogeometric analysis of functionally graded plates using a refined plate theory", *Composites Part B: Engineering*, Vol. 64, pp 222-234, August 2014

Phuc Phung-Van, L. De Lorenzis, Chien H. Thai, Magd Abdel-Wahab and H. Nguyen-Xuan, "Analysis of laminated composite plates integrated with piezoelectric sensors and actuators using higher-order shear deformation theory and isogeometric finite elements", *Computational Materials Science*, Vol. 96, pp 495-505, January 2015

Chien Hoang Thai, "Development of isogeometric finite element methods", Ph.D. Dissertation, Ton Duc Thang University, Ho Chi Minh City, Vietnam, March 2015

Phuc Phung-Van, Lieu B. Nguyen, Loc V. Tran, Tien Dung Dinh, Chien H. Thai, S.P.A. Bordas, Magd Abdel-Wahab and H. Nguyen-Xuan, "An efficient computational approach for control of nonlinear transient responses of smart piezoelectric composite plates", *International Journal of Non-Linear Mechanics*, Vol. 76, pp 190-202, November 2015

Chien H. Thai, A.M. Zenkour, M. Abdel Wahab and H. Nguyen-Xuan, "A simple four-unknown shear and normal deformations theory for functionally graded isotropic and sandwich plates based on isogeometric analysis", *Composite Structures*, Vol. 138, pp 77-95, April 2016

Tuan N. Nguyen, Chien H. Thai and H. Nguyen-Xuan, "On the general framework of high order shear deformation theories for laminated composite plate structures: a novel unified approach", *International Journal of Mechanical Sciences*, Vol. 110, pp 242-255, May 2016

Chien H. Thai, A.J.M. Ferreira, M. Abdel Wahab and H. Nguyen-Xuan, "A generalized layerwise higher-order shear deformation theory for laminated composite and sandwich plates based on isogeometric analysis", *Acta*

Mechanica, Vol. 227, No. 5, pp 1225-1250, May 2016

Chien H. Thai, Tan N. Nguyen, T. Rabczuk and H. Nguyen-Xuan, "An improved moving Kriging meshfree method for plate analysis using a refined plate theory", Computers & Structures, Vol. 176, pp 34-49, November 2016

Hoang-Hiep Phan-Dao, Chien H. Thai, Jaehong Lee and Hung Nguyen-Xuan, "Analysis of laminated composite and sandwich plate structures using generalized layerwise HSDT and improved meshfree radial point interpolation method", Aerospace Science and Technology, Vol. 58, pp 641-660, November 2016

Vuong Nguyen Van Do and Chien H. Thai, "A modified Kirchhoff plate theory for analyzing thermo-mechanical static and buckling responses of functionally graded material plates", Thin-Walled Structures, Vol. 117, pp 113-126, August 2017