

Roach, David; Robinson, Richard

Knot removal using the bounding tension spline. (English) [Zbl 1068.41018](#)

Neamtu, Marian (ed.) et al., Advances in constructive approximation: Vanderbilt 2003. Proceedings of the international conference, Nashville, TN, USA, May 14–17, 2003. Brentwood, TN: Nashboro Press (ISBN 0-9728482-2-3/hbk). Modern Methods in Mathematics, 467-476 (2004).

The authors give a tight bound on the flexibility of a natural tension spline on a set of convex data as the tension varies. They show that for any choice of the tension parameter, the tension spline is bounded between the linear spline and a C1-cubic they call the bounding tension spline. As an application, they suggest a simple knot removal problem which could be used to reduce the number of knots while maintaining the overall convexity and shape of the underlying function.

For the entire collection see [\[Zbl 1047.41001\]](#).

Reviewer: [Antonio López-Carmona \(Granada\)](#)

MSC:

[41A15](#) Spline approximation

Keywords:

[splines](#); [convex data](#)