

ReadMe File

for the Hermite Interpolation conjecture

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List of the programs to accompany Technical Report xxx, *Conjecture of error boundedness in a new Hermite interpolation problem via splines of odd degree*, by Fadoua Balabdaoui and Jon A. Wellner.

- Two programs with interpolation of the hinge functions $f_u(x) = (x - u)_+^{k-1}$:
 - Single run, hinge function: EB-SinglePrint-hinge-post.nb
 - Monte-Carlo program, hinge function: EB-MC-hinge-post.nb (used to compute Table 1, page 8).
- Two programs with interpolation of the monomial t^{2k} :
 - Single print, t^{2k} (monospline): MN-SinglePrint-post.nb
Single run with equidistant knots, used to produce Table 5
Single run with random knots
 - Monte-Carlo program, t^{2k} (monospline): MN-MC-post.nb (used to compute Table 3, page 12).
- Two programs with computation of the perfect spline bound:
 - Single print, perfect spline bound: PS-SinglePrint-post.nb
 - Monte-Carlo program, perfect spline bound: PS-MC-post.nb (used to compute Table 2, page 11)
- Two programs with computation of Complete and Hermite interpolants of t^{2k} :
 - Single print, monospline interpolation with comparison of Complete and Hermite interpolants: MS-SinglePrint-Compl-HermiteCompare-post.nb
 - Monte-Carlo program, monospline interpolation with isolation of knot configurations giving large max error: MS-MC-ConfigIsol-post.nb
- Two programs with computation of complete and Hermite interpolants of Shadrin's "null spline" (see Shadrin (2001), pages 63 and 69)
 - Single print, Shadrin's null spline with comparison of Complete and Hermite Interpolants: SN-SinglePrint-CandHComp-post.nb
 - Monte-Carlo program, Shadrin's null spline: SN-MC-CandHComp-post.nb

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