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Why Convex?

This lecture makes the case for the study of convex functions focussing on their structural properties. We highlight the centrality of convexity and give a selection of salient examples and applications.

It has been said that most of number theory devolves to the Cauchy–Schwarz inequality and the only problem is deciding ‘what to Cauchy with’. In like fashion, much mathematics is tamed once one has found the right convex ‘Green’s function’. Why convex? Well, because...

References

- [1] J. M. Borwein and J. D. Vanderwerff, *Convex Functions: Constructions, Characterizations and Counterexamples*. Encyclopedia Math. Appl. vol. **109**, Cambridge University Press, 2009 (<http://projects.cs.dal.ca/ddrive/ConvexFunctions/>).