

Congratulations!

Dr. Natacha Fontes-Merz, Assistant Professor of Mathematics at Westminster College, recently wrote an article entitled “A Multidimensional Version of Turán’s Lemma,” which was published in the Journal of Approximation Theory, Vol. 140, Issue 1, May 2006, Pages 27-30.



Dr. Natacha Fontes-Merz

Abstract:

In this article we provide a multidimensional version of Nazarov's extension of Turán's lemma—a result in which the uniform norm of a complex-valued polynomial, p , on the unit circle \mathbb{T} is compared with the uniform norm of p on any measurable subset of \mathbb{T} . If we let $\mathbb{T}^n := \mathbb{T} \times \cdots \times \mathbb{T}$ represent the distinguished boundary of the polydisk $D^n := D \times \cdots \times D$ for $n \in \mathbb{N}$ and D the open unit disk then, as in the one dimensional case, the constant which relates the uniform norm of p on \mathbb{T}^n to the uniform norm of p on any measurable subset E of \mathbb{T}^n depends on the order of p and the measure of the set E .

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Dr. Fontes-Merz, Ph.D. Kent State, teaches discrete mathematics, multivariable calculus, and abstract algebra. She also enjoys helping students prepare for the Putnam exam. Her research interests are approximation theory and complex analysis. Dr. Fontes-Merz is a 2005-2006 Project NExT fellow and is a co-coordinator for the Project NExT sessions at the Mathematical Association of America and American Mathematical Society joint meeting.