Jan Brandts, Sergey Korotov, and Michal Křížek: *Simplicial finite elements in higher dimensions*; Helsinki University of Technology, Institute of Mathematics, Research Reports A517 (2007).

Abstract: *Over the past fifty years, finite element methods for the approximation of solutions of partial differential equations (PDEs) have become a powerful and reliable tool. Theoretically, these methods are not restricted to PDEs formulated on physical domains up to dimension three. Although at present there does not seem to be a very high practical demand for finite element methods that use higher dimensional simplicial partitions, there are some advantages in studying the methods independent of the dimension. For instance, it provides additional insights into the structure and essence of proofs of results in one, two and three dimensions. In this paper we review some recent progress in this direction.*

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