

# An Anisotropic Nonconforming Finite Element with Some Superconvergence Results

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摘要

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## An Anisotropic Nonconforming Finite Element with Some Superconvergence Results

Dong-yang Shi (1), Shi-peng Mao (2), Shao-chun Chen (3)

**Abstract** The main aim of this paper is to study the error estimates of a nonconforming finite element with some superconvergence results under anisotropic meshes. The anisotropic interpolation error and consistency error estimates are obtained by using some novel approaches and techniques, respectively. Furthermore, the superclose and a superconvergence estimate on the central points of elements are also obtained without the regularity assumption and quasi-uniform assumption requirement on the meshes. Finally, a numerical test is carried out, which coincides with our theoretical analysis.

**Key words** [Anisotropic meshes](#) [Nonconforming finite element](#) [Interpolation error and consistency error estimates](#) [Superclose](#) [Superconvergence](#).

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