Dobrowolski, Manfred  
On the LBB constant on stretched domains. (English) Zbl 1090.35136  

Summary: It is proved that the constant in the Ladyzhenskaya-Babushka-Brezzi condition on stretched domains is proportional to $a^{-1}$, where $a \geq 1$ is the aspect ratio of the stretched domain. In particular, the result is valid for channel domains and plates.

MSC:
- 35Q30 Navier-Stokes equations  
- 65J05 General theory of numerical analysis in abstract spaces  
- 74K20 Plates  
- 74S05 Finite element methods applied to problems in solid mechanics  
- 76D07 Stokes and related (Oseen, etc.) flows  
- 76M10 Finite element methods applied to problems in fluid mechanics

Keywords:  
LBB constant; Stokes equations; stretched domains

Full Text: DOI