

On Dimension Reduction and the Korn Inequality

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Abstract: In this talk, we explore the role of the Korn inequality in a range of problems related to dimension reduction, beginning with elasticity and extending to fluid dynamics. The Korn inequality plays a crucial role in understanding the behavior of stress tensors in thin domains, particularly as the diameter or thickness of these domains approaches zero. It serves as a key analytical tool for controlling the asymptotic behavior of the main physical quantities in such settings.