

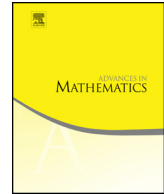


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Stability of spherically symmetric subsonic flows and transonic shocks under multidimensional perturbations



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ABSTRACT

We develop a method that works in general product Riemannian manifold to decompose the three-dimensional steady full compressible Euler system, which is of elliptic–hyperbolic composite-mixed type for subsonic flows. The method is applied to show stability of spherically symmetric subsonic flows and transonic shocks in space \mathbb{R}^3 under multidimensional perturbations of boundary conditions.

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Three-dimensional
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 type
 Decomposition
 Subsonic flow
 Transonic shock
 Stability
 Uniqueness
 Venttsel condition
 Nonlocal elliptic operator

Contents

1.	Introduction	698
2.	A decomposition of steady Euler system	701
2.1.	Some well-known reductions	701
2.2.	Second-order equation for pressure	702
2.3.	The decomposed system and its equivalence to Euler system	703
3.	Existence and uniqueness of spherically symmetric subsonic flows	705
3.1.	Formulation of subsonic flow problem for steady compressible Euler system	705
3.2.	Existence of spherically symmetric subsonic flows	706
3.3.	Global uniqueness of spherically symmetric subsonic flows	707
4.	Stability of spherically symmetric subsonic flows	710
4.1.	Problem (S2)	711
4.1.1.	Specification of boundary conditions	711
4.1.2.	Specify equation of pressure	712
4.1.3.	Problem (S2)	714
4.2.	Problem (S3)	714
4.2.1.	Linearization of boundary conditions	714
4.2.2.	Linearization of pressure’s equation	715
4.2.3.	Problem (S3)	716
4.3.	Proof of Theorem 4.1	717
4.3.1.	Construction of mapping \mathcal{T}	718
4.3.2.	Contraction of the mapping \mathcal{T}	720
5.	Stability of spherically symmetric transonic shocks	721
5.1.	Transonic shock problem (T) and main result	721
5.1.1.	Background solution	722
5.1.2.	The main result	723
5.1.3.	Existence of supersonic flow	723
5.2.	Reformulation of R–H conditions	724
5.2.1.	Decomposition of R–H conditions	724
5.2.2.	Linearization of R–H conditions	725
5.3.	Problem (T1)	726
5.3.1.	Divergence of tangential velocity field on shock-front	726
5.3.2.	Problem (T1)	728
5.4.	Problem (T2)	729
5.5.	Problem (T3)	730
5.6.	Problem (T4)	733
5.7.	A linear second order nonlocal elliptic equation with Venttsel boundary condition	735
5.7.1.	Uniqueness of solutions in Sobolev spaces	735
5.7.2.	Uniform a priori estimate in Hölder spaces	738
5.7.3.	Uniform a priori estimate in Sobolev spaces	739
5.7.4.	Approximate solutions	739
5.7.5.	Existence	741
5.8.	Solvability of Problem (T4)	742
5.8.1.	The iteration sets	742
5.8.2.	Construction of iteration mapping	743
5.8.3.	Contraction of iteration mapping	746

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