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10:30-11:30		DISSIPATIVE SOLUTIONS TO THE COMPRESSIBLE ISENTROPIC NAVIER-STOKES EQUATIONS
	Abstract: In this talk, we will study the dissipative solutions to the compressible isentropic Navier-Stokes equations. The notion was inspired by the concept of dissipative solutions to the incompressible Euler equations of Lions-(1996, Section 4.4). We prove the existence of the dissipative solutions to compressible isentropic Navier-Stokes equations. Moreover, we present the relation between the weak solution and the dissipative solution to compressible isentropic Navier-Stokes equations.	

2021 6 19 14:30-17:00		
14:30-15:00		The Cauchy problem for the fermion equation in weighted Sobolev spaces
	Abstract : In this talk, we will deal with the global well-posedness and the asymptotic behavior of the solution of the fermion equation in the Sobolev spaces with polynomial weight in the torus. We first investigate the linearized equation, obtain the optimal exponential decay rate for the associated semigroup. Our strategy is taking advantage of quantitative spectral estimates in smaller reference Hilbert space, the factorization method and the enlargement of functional space. We then turn to the nonlinear equation and prove the existence and uniqueness of solutions in a close-to-equilibrium regime. Moreover, we prove an exponential stability for such a solution with the optimal decay rate given by the semigroup decay of the linearized equation. This work is joint with Professor Kung-Chien Wu.	
15:00-15:30		Global weak solutions for a kinetic-fluid model with local alignment force in a bounded domain
	Abstract We study a kinetic-fluid model in a 3D bounded domain. More precisely, this model is a coupling of the Vlasov-Fokker-Planck equation with	

	the local alignment force and the compressible Navier-Stokes equations wit nonhomogeneous Dirichlet boundary condition. We prove the global exis 3/2) and hence extend the existence result of Choi and Jung [Asym analysis for a Vlasov-Fokker-Planck/Navier-Stokes system in a bound domain, arXiv: 1912.13134v2], where the velocity of the flfluid is suppleme with homogeneous Dirichlet boundary condition.	

15:30 - 16: 00

	the existence and regularity of solutions to the VPB system with soft potential in a bounded convex domain in the case of in-flow boundary condition. We establish the existence of strong solutions in the time interval $[0,T]$ for arbitrary given $T>0$ when the initial distribution function is near an absolute Maxwellian. Our contribution is based on a new weighted energy estimate in some $W^{1,p}$ space and $L_x^3 L_v^{1+}$ space for soft potential. Then using the classical L^2-L^∞ method and bootstrap argument, we extend the local solutions from small time scale to large time scale.

2021 6 20 9:00 - 11:30

9:00 - 9:30		SHARP DECAY ESTIMATES FOR THE VLASOV-POISSON SYSTEM WITH AN EXTERNAL MAGNETIC FIELD
	Abstract In this talk, we establish sharp decay estimates for the Vlasov-Poisson system with an external magnetic field on $\mathbb{R}^3$. Our arguments are based on the modified vector field method developed in [33] for the classical Vlasov-Poisson system in 3D case, and hence we extend some results in [33] to the Vlasov-Poisson system with an external magnetic field.	

Global well-posedness to three-dimensional full compressible magnetohydrodynamic equations with

9:30 - 10:00

	full compressible Navier-Stokes equations was obtained under the condition " viewed as the firs one on the global existence of strong solutions to 3D Cauchy problem for compressible non-isothermal nematic liquid crystal flows with vacuum.	
10:00-10:30		Global well-posedness and optimal large-time behavior of strong solutions to the non-isentropic particle-fluid flows
	In this talk, we consider the large-time decay near equilibrium of non-isentropic particle-fluid flow system. The energy balance equation of fluid part of the system is given by $$\partial_t (nE) + \nabla\cdot ((nE + p) u) - \kappa\Delta \widetilde{\theta} = \Cal F, $$ where the viscous flux term $\nabla \cdot (\nabla u u)$ is omitted, in contract to the classical compressi Navier-Stokes equations [E. Feireisl, Dynamics of viscous compressible f Oxford Lecture Ser. Math Appl., 26, Oxford Univ. Press, Oxford, 200 MR2040667]. The global existence of smooth solutions near equilibrium is established both $\Bbb R^3$ and $\Bbb T^3$. Optimal algebraic exponential decays are obtained in $\Bbb R^3$ and $\Bbb T^3$, respectively. The proofs are based on a new macro-micro decomposition, and careful estimates of th momentum functionals. Compared to previous results, the appearance of temperature and the interaction of temperature with the particle-fluid flows increase the complexity of the analysis.	
10:30-11:30		Stability and instability of the 3D homogeneous incompress viscous flow in a smooth bounded domain
	Abstract: In this talk we discuss the stability and instability of the steady $(0,p_s)$ for the 3D homogeneous incompressible viscous flow in a sm bounded simply connected domain with Navier boundary condition. It is s	

	that there exists a critical slip friction coefficient C_μ such that if the slip friction coefficient ζ is less than C_μ, then the steady state $(0,p_s)$ is linearly and nonlinearly unstable and conversely, for the $\zeta>C_r \mu$, the steady state $(0,p_s)$ is linearly and nonlinearly st This talk is based on the joint work with Ronghua Pan and Zhipeng Zhang.
14:00 - 17: 00	

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