MATH 6041: FINAL REPORT

I. Description: The deadline for submitting the final report is December 15th. The chosen topics for the report should fall within the kinetic theory. While optional topics are provided in the reference materials, students are also encouraged to explore other topics or papers in the field of kinetic theory.

The report should include a proper introduction to the selected problem. It is expected that students discuss the difficulties and proof strategy. Including proof details is optional.

II. Requirement:

- Deadline: Dec 15th.
- Topics: kinetic theory
- Contents: introduction, difficulty, strategy, proof(optional).

III. Optional topics:

- Well-posedness of Boltzmann equation with large intial data. [11, 13, 12]
- Regularity theory of Boltzmann equation. [19, 8]
- Boundary value problem of Vlasov-Poisson-Boltzmann system. [5, 6, 9]
- Boltzmann theory with specular boundary condition, Maxwell boundary condition and generalized diffuse reflection. [21, 17, 7, 3]
- Hydrodynamic limit of Boltzmann equation. [4, 10, 2]
- Well-posedness theory of Landau equation. [16, 18, 22]
- Boundary layer equation. [23, 14, 15, 1, 20]

References

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