The effect of the Hall term on Jeans instability in quantum magnetoplasma with resistive effects[1] ZHENGWEI WU, City University of Hong Kong, HAIJUN REN, University of Science and Technology of China, PAUL CHU, City University of Hong Kong — The Jeans instability in dense quantum plasmas is investigated by taking into account the Hall term and resistive effect in the presence of two dimensional (2-D) magnetic fields. The general dispersion relation is presented. The presence of Hall term is shown to induce a frequency shift and have no effect on the instability criterion. The resistance is shown to introduce both damping and destabilizing effect on the system in different cases. The analytical expressions of the growth/damping rate of Jeans instability are obtained for both the finite and remarkable resistive effects cases in the absence of Hall term.

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