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# Gravity induced evolution of a magnetized fermion gas with finite temperature

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We examine the near collapse dynamics of a self–gravitating magnetized electron gas at finite temperature, taken as the source of a Bianchi-I spacetime described by the Kasner metric. The set of Einstein–Maxwell field equations reduces to a complete and self–consistent system of non–linear autonomous ordinary differential equations. By considering a representative set of initial conditions, the numerical solutions of this system show the gas collapsing into both, isotropic ("point–like") and anisotropic ("cigar–like") singularities, depending on the intensity of the magnetic field. We also examined the behavior during the collapse stage of all relevant state and kinematic variables: the temperature, the expansion scalar, the magnetic field, the magnetization and energy density. We notice a significant qualitative difference in the behavior of the gas for a range of temperatures between the values T ˜10ˆ4 K and T ˜ 10ˆ7 K.

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