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Dedicated to Professor LAZĂR DRAGOȘ on his 75<sup>th</sup> birthday

## **On the Approximation of the Solutions of a Kinetic Model of Fermions**

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**Abstract** - The purpose of this paper is to derive an accurate approximation method to the non-linear quantum Boltzmann equation for a gas of interacting Fermions near equilibrium. Our study refers to a space-homogeneous model where the main mathematical difficulties are introduced by non-linearity in the collision operators and by Pauli's exclusion principle imposed to the one particle distribution function.

**Key words and phrases** : Boltzmann equation, Monte-Carlo methods, Fermi-Dirac statistic, nonlinear partial differential equations

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