



Colóquio do IMECC

On the Boltzmann Equation and the Neutral Particle Transport

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Resumo: In this talk, we first comment on historical notes related to the derivation of the Boltzmann Equation and discuss the relation of this model to the so-called kinetic theory and the transport theory. Next, we introduce problems of interest in science and technology whose description is associated with this equation, such as in medical applications, nuclear systems, and micro-electro-mechanical systems. We then present recent advances to this field, particularly on using spectral methods for deriving concise and accurate solutions for the abovementioned problems.