

# ON DEPENDENCY GRAPHS AND THE LATTICE GAS

Paula Mendes Soares Fialho <sup>1</sup>

<sup>1</sup> Universidade Federal de Minas Gerais

## Resumo/Abstract:

In probabilistic combinatorics, one is often faced with a collection of events which one wishes to prove that with positive probability none of the events happen. An apparently unrelated problem arises in Statistical Mechanics, in the context of the repulsive lattice gas: How to find zeros of the partition function. We will show the connection between this two problems, and, with that, we will also show the close connection between the repulsive lattice gas and the Lovász Local Lemma. Based on the work of Scott and Sokal of the same title.

We would like to thanks FAPEMIG for financial support.