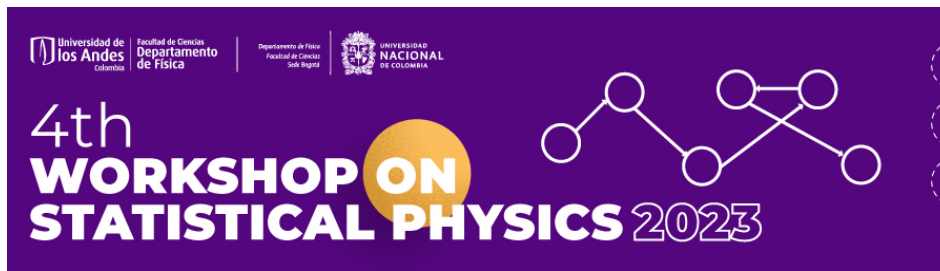


## 4th Workshop on Statistical Physics



Contribution ID: 45

Tipo: **Poster**

### Study of a traffic bottleneck using a cellular automaton model

*jueves, 5 de octubre de 2023 17:40 (20 minutos)*

The formation of traffic bottlenecks in main roads is one of the most common causes of vehicular congestion, having a bigger impact in cities with main roads consisting of few lanes i.e. 2 or 3 lanes. A traffic bottleneck creates a challenge for those drivers who are in the congested lane since they must find a way to change lanes in order to surpass the bottleneck. In this scenario the best global outcome is found when an equilibrium between the desire of each driver to move as fast as possible and giving the way to other drivers so they can move faster is achieved. We analyze a traffic bottleneck in a road of two lanes in the stationary regime using a cellular automaton model, for that we look into a variable that accounts for the probability of a driver to give the lane when asked for it, and we use it to characterize the efficiency of the bottleneck to transport cars.

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