Contribution ID: **795**   Type: **Poster**

Traffic flow simulation through traffic light using cellular automata model

Tuesday 22 May 2018 15:45 (15 minutes)

The traffic congestion is a big problem in our country and in the world. Management of traffic becomes a very important issue. In this project, management of traffic light stop was studied with computer simulation. We simulated the traffic flow model under condition of a Cellular automata model using C programming. Our objectives are to simulate traffic flow through traffic light using cellular automata model and to study the effects of the stop sings on traffic flow rate. A cell automation model based on microscopic discrete description which is discrete in time, space, and status. It does not require a specific formula. It is also suitable for computer simulation. According to our model, the road was designed as many cells and the car can be placed in each cell. The time of the system is defined in step time unit. In each step time, the appropriate position of each car in the system is calculated under the rule of our model then it is moved to new position. In the result, the flow rate of different traffic management in single-lane intersection with stop signal systems are compared. From our result, our traffic flow model can be used to show the position of the cars on the road in each step time and can be used to calculate the flow rate through traffic-light signal.

Authors: Mr JONGSAWATSATAPORN , Nitit; Mr HORKITCHAROEN , Songwut; Mr DISRATTAKIT, Jarupat; Dr DISRATTAKIT, Pranee

Presenters: Mr JONGSAWATSATAPORN , Nitit; Mr HORKITCHAROEN , Songwut

Session Classification: A017: Statistical and Theoretical Physics (Poster)

Track Classification: Statistical and Theoretical Physics