

## Accepted Manuscript

Modeling phase diagrams as stochastic processes with application in vehicular traffic flow

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PII: S0307-904X(17)30547-4  
DOI: [10.1016/j.apm.2017.08.029](https://doi.org/10.1016/j.apm.2017.08.029)  
Reference: APM 11941



To appear in: *Applied Mathematical Modelling*

Received date: 28 October 2016  
Revised date: 1 August 2017  
Accepted date: 22 August 2017

Please cite this article as: Daiheng Ni , Hui K Hsieh , Tao Jiang , Modeling phase diagrams as stochastic processes with application in vehicular traffic flow, *Applied Mathematical Modelling* (2017), doi: [10.1016/j.apm.2017.08.029](https://doi.org/10.1016/j.apm.2017.08.029)

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**Highlights**

- Proposed a methodology to model phase diagrams as stochastic processes.
- Formulated a generic procedure to determine homogeneous distributions with parameters derived from empirical data.
- Applied the methodology to address fundamental diagram of vehicular traffic flow.
- Conducted a verification on the resultant stochastic fundamental diagram using empirical data.
- Discussed the significance of the research and its applications beyond vehicular traffic flow.

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