

# 数学的实践与认识

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## Study on a Rumor Propagation Model with Standard Incidence Rate

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**Abstract:** In this paper, we firstly divide the netizens into three categories: ignorants, spreaders and intellect, and establish a rumor propagation model with standard incidence rate. Secondly, we give the existence and stability of the model to study the spreading of the rumor by using dynamic theory and method. Finally, we discuss how to control the spread of rumors by controlling parameters with numerical simulations. We find that in the case of the public reliability of the intellects are high, and most of the netizens have the ability to identify rumors, and do not believe rumors or spread rumors, the rumor will eventually disappear. These results will be helpful for developing prevention and control measures for rumor propagation.

**Keywords:** rumor; intellect; stability