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Understanding viral video dynamics through an epidemic modelling approach

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***Highlights (for review)**

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Highlights:

We formulate a novel susceptible-exposed-infected-recovered-susceptible delay differential equation epidemic model to describe the popularity evolution of viral videos

Time-delay is used to accurately describe the virtual contact process between individuals and the temporary immunity of individuals to videos after they have grown tired of watching them

Models are validated by fitting model parameters to viewing data from YouTube music videos

Decay rates in the daily views of videos are studied to determine whether they follow a power law or exponential distribution

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