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Decay Processes of Three-Species on Networks KYUNGSIK KIM,
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CHANG, Remote Sensing Research Laboratory, Meteorological Research Institute,
KMA, Seoul 156-720, Korea — We study the novel reaction-diffusion process of
three-species on scale-free networks, which is significantly different from the chemical
reaction systems manipulated from the deterministic rate equation. For our three-
species process, the particle density scales as the power-law behavior existing the
crossover, similar to the two-species reaction-diffusion system. From four kinds of
the scaling exponent γ in the degree distribution of networks, the fraction and the
ratio are shown to increase linearly as time advances. The result that we analyzed
and calculated is compared with other findings in the decay process.

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