



Preferential attachment in heterogeneous complex networks

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We present a framework for the extension of the preferential attachment (PA) model to heterogeneous complex networks. We define a class of heterogeneous PA models, where node properties are described by fixed states in an arbitrary metric space, and introduce an affinity function that biases the attachment probabilities of links. We perform an analytical study of the stationary degree distributions in heterogeneous PA networks. We show that their degree densities exhibit a richer scaling behavior than their homogeneous counterparts, and that the power law scaling in the degree distribution is robust in presence of heterogeneity.