1156-05-253 **Huseyin Acan*** (ha627@drexel.edu), **Alan Frieze** (alan@random.math.cmu.edu) and **Boris Pittel** (bgp@math.ohio-state.edu). *Descendant sets in preferential attachment graphs.*

In a preferential attachment graph, vertices arrive one at a time. Upon its arrival at time t, vertex v_t chooses m random neighbors for itself from the existing vertices, where these choices depend on the degrees of the current graph and a parameter δ. In this graph, we are interested in the set of descendants of a given vertex. (If we think that the edges are directed towards the earlier vertices, v_t is a descendant of v_r if there is a directed path from v_t to v_r.) For $m = 1$ and for a given vertex, we show that the size of the descendant set, scaled by the number of vertices in the graph, converges almost surely to a limit whose distribution is a mixture of two beta distributions. When $m > 1$, the same quantity converges almost surely to 1.

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