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Assortative Configuration Graphs

Assortative configuration model as a generalization to the conventional configuration random graphs is introduced, in which the distribution of half-edge attachments is no longer uniform and could be of any arbitrarily type, which satisfies some regularity conditions. A wiring process is developed, so as the limiting ratio of edges with out-degree k and in-degree j converges in probability to Q_{kj}. This model could be exploited as a better realization of real-world random networks, where the connections are assortative.