random multigraph models: goodness of fit

gof measures between observed and expected edge multiplicity sequence
under simple or composite hypothesis

test statistics:

- ☑ S of Pearson type
- ☑ A of information divergence type

summary:

- ☑ even for very small *m*, the null distributions of the test statistics under the IEA model are well approximated by their asymptotic distributions
- ☑ the convergence of the cdf's of test statistics are rapid and depend on parameters in models
- ☑ approximations can be obtained using adjustments of χ^2-distributions yielding better power
- ☑ influence of RSM on both test statistics is substantial for small *m:* a shift of their distributions towards smaller values compared to what holds true for null distributions under IEA

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significance level
$\alpha = 0.05$

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