1064-05-223   **Liviu Ilinca*** (`ilinca@indiana.edu`) and **Jeff Kahn**. *The Number of Matchings of a Given Size.*

We use entropy methods to prove upper bounds for the number $\Phi_l(G)$ of matchings of a given size l in a graph G with a given degree sequence. In particular, for a d-regular, N-vertex graph G, our bound is best possible up to an error factor that is $e^{o(N)}$ provided $d \to \infty$. This represents the best progress to date on the "Upper Matching Conjecture" of Friedland, Krop, Lundow and Markström. (Received September 09, 2010)