1063-05-80 **Graeme Kemkes**, **Cristiane Sato** and **Nicholas Wormald***, Dept of C & O, 100 University Ave, Waterloo, ON N2L3G1, Canada. *Asymptotic enumeration of sparse 2-connected graphs.*

We determine an asymptotic formula for the number of 2-connected graphs on n vertices and m edges, provided that $m - n \to \infty$ and $m = O(n \log n)$ as $n \to \infty$. This is the entire range of m not covered by previous results. The proof involves determining properties of the core and kernel of random graphs with minimum degree at least 2. We also obtain formulae for graphs with given degree sequence for most ('typical') sequences. Our main result solves a problem of Wright from 1983 and determines his mysterious constant a. (Received August 06, 2010)