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Maria J Monks* (monks@mit.edu), 290 Mass Ave, Cambridge, MA 02139. *The solution to the partition reconstruction problem.*

Given a partition λ of n , a k -minor of λ is a partition of $n - k$ whose Young diagram fits inside that of λ . We find an explicit function $g(n)$ such that any partition of n can be reconstructed from its set of k -minors if and only if $k \leq g(n)$. In particular, partitions of $n \geq k^2 + 2k$ are uniquely determined by their sets of k -minors. This result completely solves the partition reconstruction problem and also a special case of the character reconstruction problem for finite groups. (Received August 29, 2007)