1009-05-87 **Penny Haxel*** (`pehaxell@math.uwaterloo.ca`), Dept. of Combinatorics & Optimization, University of Waterloo, Waterloo, N2L 3G1, Canada, and **Brendan Nagle** and **Vojta Rodl**. *An algorithmic version of the hypergraph regularity method.*

Extending the celebrated Szemerédi Regularity Lemma for graphs, in 2002 Frankl and Rödl proved a Regularity Lemma for 3-uniform hypergraphs that has a corresponding Counting Lemma, allowing counting of small substructures. The joint application of these two lemmas is called the Hypergraph Regularity Method and has led to many results on hypergraph problems.

We give an algorithmic version of the Regularity Lemma for 3-uniform hypergraphs, together with a corresponding Counting Lemma, and discuss some applications. (Received August 08, 2005)