

1046-05-343

Eldar Fischer* (eldar@cs.technion.ac.il) and **Johann A. Makowsky**
(janos@cs.technion.ac.il). *The Specker-Blatter theorem revisited*. Preliminary report.

While many results in combinatorics provide asymptotic estimates for the number of structures satisfying a given property, the Specker-Blatter Theorem (1981) is one of the few results dealing with the "low-order digits". This result exhibits a modular recurrence relation for counting the number of ways a set with n elements can be equipped with unary and binary relations satisfying a property definable in monadic second order logic.

We survey some recent developments. In particular we outline an example showing that the theorem does not hold over quaternary relations, and proofs for some additional cases in which it does hold. (Received August 28, 2008)