New Results on Projections

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What is the largest number of projections onto k coordinates guaranteed in every family of m binary vectors of length n? This fundamental question is intimately connected with important topics and results in combinatorics and computer science (Turan numbers, the Sauer-Perles-Shelah Lemma, the Kahn-Kalai-Linial Theorem), and is generally wide open. We essentially settle the question for a wide range of parameters (linear k and sub-exponential m).

Based on joint work with Noga Alon and Noam Solomon.