

Low Autocorrelation Binary Sequences (LABS)

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Abstract. We will describe the LABS problem, a challenging optimization problem that arises in mathematics, communications engineering and statistical physics. We will discuss the state-of-the-art algorithmic techniques to solve this problem as well as some complexity estimates derived from experimental work by various authors. The algorithmic techniques used in the LABS problem include branch and bound methods, group theory and high-performance (parallel) computing. We will also mention the open problems in the realm of LABS, as well as some recent ideas in joint work with Prof. Panos M. Pardalos.