

Modern multicore processors provide performance counters that export information on various essential aspects of software execution, from instruction decoding to cache utilization. Typically, a processor is capable of counting a small subset from hundreds of different event types, the events themselves can occur almost every processor clock tick. This yields a significant amount of data which is difficult to collect without disrupting the execution itself. The goal of the thesis is to apply compressive sampling - a special method of sampling signals that allows to reconstruct sparse signal from a small number of samples - to the performance counter data.