

**Tobias Kuna** (Reading)

**The discrete truncated moment problem**

**Abstract**

The truncated moment problem on  $\mathbb{N}_0$  considers the question when to a given set of numbers one can find a measure on  $\mathbb{N}_0$  which has these numbers as moment, that is expectation of powers. Little is known about the truncated moment in general. We derive optimal necessary and sufficient conditions for any degree. This seemingly simple problem is surprisingly hard and was completely unsolved for degree greater than 3. A short outline of the proof pointing out the root of the difficulties will be given.