

Online Number Theory Seminar

16 June 2023. – 17:00-17:50

Štefan Porubský : Properties of sum-of-digits functions

A q -ary sum-of-digits function s_q is defined as $s_q(n) = \sum_{j \geq 0} \varepsilon_j$, where ε_j are the digits in the q -ary digital expansion of n . Sum-of-digits function also serve as an important prototype of the q -additive functions. Besides their various asymptotic distribution and arithmetic properties, q -ary sum-of-digits functions or their weighted variants $s_{q,\gamma}$ covers some basic sequences playing important role in the uniform distribution theory mod 1. In 2007 F.Pillichshammer proved a criterion when sequences generated by the weighted sum-of-digits function are uniformly distributed mod 1. In the talk we shall discuss some basic characteristics of the asymptotic distribution of sum-of-digits and q -additive functions, as well as their connections to the mention Pillichshammer's criterion (this part of the talk is based on the joint work with L. Mišík and O.Strauch).