

A finite set of integers A tiles the integers by translations if one can cover the integers with disjoint translated copies of A . A classical reduction reduces the problem to tilings of the cyclic group \mathbb{Z}_M , where M has the same prime factors as the cardinality of A . In my talk, which is based on joint work with Izabella Laba, I will present the Coven-Meyerowitz tiling conditions and several key combinatorial reformulations, tools and reductions used to study integer tilings. Applications to the case where the cardinality of A has three prime factors as well as some open problems will also be discussed.

The talk may be viewed as a follow-up to Izabella's talk from the previous week, but will not assume any prior knowledge on the topic.