

On the decomposition of the balls  
into finitely many congruent pieces  
joint work with M. Laczkovich

**Abstract:** A set called *m-divisible* if it can be decomposed into  $m$  pairwise disjoint congruent pieces. Van der Waerden noticed in 1949 that disc is not 2 –divisible. S. Wagon proved in 1983 that the  $d$ -dimensional ball is not  $m$ -divisible for  $m \leq d$ . Wagon's result motivated the question whether or not the  $d$ -dimensional balls are  $m$ -divisible for  $m > d$ . In this paper we prove that if  $d$  is divisible by 3 then the  $d$ -dimensional balls are  $m$ -divisible if  $m$  is large enough. This implies that for every  $d$  there are  $d$ -dimensional convex compact sets which are  $m$ -divisible for some  $m$ . This answers a question of C. Richter.