

Constructions of universal fractional parts of complete graphs

Zdzisław Skupień

Faculty of Applied Mathematics, AGH Kraków, Poland

Main result: A universal one- t th (or a universal t th part) of K_n exists for each n and any $t \leq 6$. Being universal means that respective t -packings of a part into K_n can leave all possible edge remainders R such that the size $|R|$ is the smallest possible. Due to recursion, the proof reduces to presenting universal parts for a few orders n . In particular, a fourth part of K_{11} and a sixth part of K_{15} , both universal, will be constructed. Then $|R| = 3$. Therefore the proof of either construction requires five packings only (since three edges can induce five nonisomorphic graphs only).