On the fractional parts of powers of algebraic numbers

H. Kaneko

Weyl showed that arithmetic progressions are uniformly distributed modulo 1 if and only if those common differences are irrational numbers. However, we know very little on the fractional parts of geometric progressions. For instance, it is unknown whether the fractional parts of the sequences $(3/2)^n$, π^n $(n = 0, 1, \ldots)$ are dense on the interval $[0, 1]$.

I will introduce known results on the limit points of the fractional parts of geometric progressions in the case where the common ratios are algebraic numbers greater than 1. I will also discuss the distances between geometric sequences and the nearest integers.