Minimality of $\mathscr{B}$-free systems (in number fields)

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Given a set $\mathscr{B}$ of natural numbers, we say that an integer n is $\mathscr{B}$-free, if no number in $\mathscr{B}$ divides n. In 2010 Sarnak initiated the study of the dynamics of sets of $\mathscr{B}$-free numbers. The orbit closure of the characteristic function of $\mathscr{B}$-free numbers is endowed with the left shift and called $\mathscr{B}$-free subshift. Any $\mathscr{B}$-free system contains a unique minimal subshift. Moreover, it is minimal precisely if the characteristic function of $\mathscr{B}$-free integers is a Toeplitz sequence. Equivalently, there is no "rescalled copy of an infinite pairwise coprime subset" in $\mathscr{B}$. I will discuss these results and their multidimensional counterparts.

The talk is based on the joint work with Stanisław Kasjan and Joanna Kułaga-Przymus.