Gusarov A.S. (Lomonosov MSU, Moscow, Russia). **Comparison of the effect of the emergence of traveling waves on the line and one-dimensional lattice.** In KPP theory, the heat equation with a nonlinear perturbation is considered for $x \in \mathbb{R}^d$, $d \in \mathbb{N}$, in which, under certain conditions, a traveling wave solution emerges, see for example [1]. There are significantly fewer publications in which its discrete analog, the difference Laplacian equation with $x \in \mathbb{Z}^d$, arises. We are aware of only two articles for $d < 3$, see [2, 3]. The problem of comparing the conditions for the emergence of a traveling wave remains relevant even in the case $d = 1$.

Theorem Let $F : [0,1] \to \mathbb{R}$ be a Lipschitz function, $F(0) = F(1) = 0$, $F'(0) = \alpha > 0$, $0 < F(p) \le \alpha p$ for all $0 < p < 1$. Then for $\varkappa > 0$, for emergence of a traveling wave solution $p(t,x) = \varphi(x + ct)$ with velocity c in the equation $\partial_t p(t,x) = \varkappa \partial_{xx} p(t,x) + F(p(t,x))$ for $x \in \mathbb{R}$ *the necessary and sufficient condition* is $c \ge c_c = 2\sqrt{\varkappa\alpha}$; in the equation $\partial_t p(t,x) = \varkappa(p(t,x-1) + p(t,x+1) - 2p(t,x)) + F(p(t,x))$ for $x \in \mathbb{Z}$ *the necessary and sufficient condition* is $c \ge c_d$, where c_d is defined by the equality $\varkappa = \sup_{r>0} \frac{rc_d - \alpha}{2\cosh r - 2}$. It is established that $c_d > c_c$ for all $\varkappa > 0$ and $\alpha > 0$.

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