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Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

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On the localization of the surface states for some classe of the discrete Schrödinger oparators with surface potential

We consider the discrete Schrödinger operator in $l^2(\mathbf{Z}^d)$ whose potential is an unbounded quasiperiodic function concentrated on a subspace $\{0\} \times \mathbf{Z}^m$ as $m < d$. Under the condition that the potential satisfies a certain version of the small divisors condition, it is proved that the part of the spectrum lying far enough from the spectrum of the free Laplacian is pure point, dense and has multiplicity one and the corresponding eigenfunctions decay exponentially.