

Let $H(t) = -\Delta + V(t, x)$ be a time-dependent Schrödinger operator on $L^2(\mathbf{R}^3)$. We assume that $V(t, x)$ is 2π -periodic in time and decays sufficiently rapidly in space. Let $U(t, 0)$ be the associated propagator. For u_0 belonging to the continuous spectral subspace of $L^2(\mathbf{R}^3)$ for the Floquet operator $U(2\pi, 0)$, we study the behavior of $U(t, 0)u_0$ as $t \rightarrow \infty$ in the topology of x -weighted spaces, in the form of asymptotic expansions. Generically the leading term is $t^{-3/2}B_1u_0$. Here B_1 is a finite rank operator mapping functions of x to functions of t and x , periodic in t . If $n \in \mathbf{Z}$ is a threshold resonance of the corresponding Floquet Hamiltonian $-i\delta_t + H(t)$, the leading behavior is $t^{-1/2}B_0u_0$. The point spectral subspace for $U(2\pi, 0)$ is finite dimensional. If $U(2\pi, 0)\phi_j = e^{-i2\pi\lambda_j}\phi_j$, then $U(t, 0)\phi_j$ represents a quasi-periodic solution.