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**Some recent results on growth of Sobolev norms for time
dependent Schrödinger evolutions**

abstract.

When a time independent Schrödinger Hamiltonian H_0 is perturbed by a time dependent potential $V(t)$ the modes of H_0 are not preserved by the evolution generated by $H_0 + V(t)$ and exchange of energies may occur. Many results are known for the Laplace operator on the torus. In this lecture we shall present general results obtained in collaboration with A. Maspero and several applications to Schrödinger operators on \mathbf{R}^d , in particular for time dependent perturbations of the harmonic oscillator.