

1135-35-1742

Hung Tran (hung@math.wisc.edu) and **Yifeng Yu*** (yyu1@math.uci.edu). *A rigidity result for effective Hamiltonians with 3-mode periodic potentials.*

Let $\overline{H}_1, \overline{H}_2$ be the effective Hamiltonians associated with the Hamiltonians $\frac{1}{2}|p|^2 + V_1, \frac{1}{2}|p|^2 + V_2$, respectively. In this talk, I will present a rigidity result which says that if the dimension $n = 2$ and each of V_1, V_2 contains exactly 3 mutually non-parallel Fourier modes, then

$$\overline{H}_1 \equiv \overline{H}_2 \iff V_1(x) = V_2\left(\frac{x}{c} + x_0\right) \quad \text{for all } x \in \mathbb{R}^2$$

for some $c \in \mathbb{Q} \setminus \{0\}$ and $x_0 \in \mathbb{R}^2$. This is a joint work with Hung Tran. (Received September 24, 2017)