

## The effect of threshold energy obstructions on the $L^1 \rightarrow L^\infty$ dispersive estimates for some Schrödinger type equations

In this talk, I will discuss the differential equation  $iu_t = Hu$ ,  $H := H_0 + V$ , where  $V$  is a decaying potential and  $H_0$  is a Laplacian related operator. In particular, I will focus on when  $H_0$  is Laplacian, Bilaplacian and Dirac operators. I will discuss how the threshold energy obstructions, eigenvalues and resonances, effect the  $L^1 \rightarrow L^\infty$  behavior of  $e^{itH} P_{ac}(H)$ . The threshold obstructions are known as the distributional solutions of  $H\psi = 0$  in certain dimension dependent spaces. Due to its unwanted effects on the dispersive estimates, its absence have been assumed in many work. I will mention our previous results on Dirac operator and recent results on Bilaplacian operator under different assumptions on threshold energy obstructions.