1053-42-135 **Akram Aldroubi** and **Haichao Wang*** (`wanghaichao0501@gmail.com`), 1229A SC, Dept of Mathematics, Vanderbilt Universiy, Nashville, TN 37240. *Uncertainty principle in Shift invariant spaces.*

In this talk, we consider the time-frequency localization of the orthonormal generator of a shift invariant space. We prove that if a principal shift invariant space is also $\frac{1}{n}\mathbf{Z}$-invariant for some $n > 1$, then the orthonormal generator and its Fourier transform can not both decay as fast as $\frac{c}{x^r}$ for positive constants $r > 1$ and c (Received August 30, 2009)