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Justin Trulen* (jgtrulen@uwm.edu), Department of Mathematical Sciences, University of Wisconsin - Milwaukee, Milwaukee, WI 53211. *Strichartz Estimate for the Cauchy Problem of Dispersive Equations on α -Modulation Space*. Preliminary report.

Abstract: Recently, asymptotic estimates for the unimodular Fourier multipliers $e^{i\mu(D)}$ have been studied for the function space α -modulation space. In this talk, using the almost orthogonality of projections and some techniques on oscillating integrals, we obtain asymptotic estimates for the unimodular Fourier multipliers $e^{it|\Delta|^{\frac{\alpha_0}{2}}}$ on the α -modulation space. As applications, we give the Strichartz estimate of the solutions for the Cauchy problem for the free Schrödinger equation, the wave equation, and the Airy equation with initial data in a α -modulation space. We also obtain a quantitative form about the solution to the Cauchy problem of the nonlinear dispersive equations. (Received August 18, 2015)