NEW MULTIPLIER INEQUALITIES

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Multiplier inequalities have proved to be one of the key tools of modern empirical process theory. In this talk I will review some classical multiplier inequalities and present a new multiplier inequality with applications in statistics. The applications include new results concerning convergence rates of least squares estimators (LSE) in regression models with possibly heavy-tailed errors. I will briefly discuss particular cases involving sparse linear regression and shape restrictions.

(This talk is based on the University of Washington PhD work of Qiyang (Roy) Han.)