1172-42-37   **Daewon Chung*** (`chdaewon@gmail.com`), 1095 Dalgubeil-daero, Dalseo-Gu, Baekun Hall 317, Daegu, 42601, South Korea. *Weighted inequality for the dyadic paraproduct with VMO function.*

It is now well known fact that the bound on the norm of the dyadic paraproduct with $b \in BMO$ in the weighted Lebesgue space $L^2(w)$ depends linearly on the A_2^d characteristic of the weight w and extrapolated the result to the $L^p(w)$ case. In this presentation, we provide the weighted norm estimates of the dyadic paraproduct π_b with $b \in VMO$ and replace the dependence of the A_2^d characteristic to $1/2$ by using the property that for $b \in VMO$ its mean oscillations are vanishing in certain cases. Using this result we will discuss the weighted norm estimates for the commutators of the Calderón-Zygmund operator $[b, T]$ with $b \in VMO$. (Received August 09, 2021)