1120-13-185 **Youngsu Kim*** (youngsu.kim@ucr.edug), 900 Univ. Ave., Surge 253, Riverside, CA 92521, and **Louis J. Ratliff** and **David Rush**. *Itoh (e)-valution rings of an ideal.*

Let R be a Noetherian ring and I an R-ideal. An element x of R is integral over I if there exist $a_i \in I^i$ for $i = 1, \dots n$ such that $x^n + a_1 x^{n-1} + \cdots + a_n = 0$. The set of elements which are integral over I is the ideal $\overline{I}$ the integral closure of I. For ideal I of positive grade, Rees showed that there exists a unique finite set of Noetherian valuations of R, now called Rees valuations $\mathcal{RV}(I)$, that determines $\overline{I}$, i.e., $x \in \overline{I}$ iff $\nu(x) \geq \nu(I)$ for all $\nu \in \mathcal{RV}(I)$. Write $\mathcal{RV}(I) = \{\nu_1, \dots, \nu_n\}$, and we call $\nu_1(I), \dots, \nu_n(I)$ the Rees integers of I.

It is well known that there exists a 1-1 correspondence between $\mathcal{RV}(I)$ and $\mathcal{RV}(t^{-1}R[It, t^{-1}])$, where $R[It, t^{-1}]$ is the extended Rees algebra of I. For any positive multiple e of the Rees integers of I, Itoh showed that there is a 1-1 correspondence between $\mathcal{RV}(t^{-1}R[It, t^{-1}])$ and $\mathcal{RV}(t^{-e}R[It, t^{-e}])$ and that the Rees integers of $t^{-e}(R[It, t^{-e}])$ are all 1. In this talk, we present a generalization of Itoh's statement. In particular, we show an explicit relationship between the associated valuations rings. (Received February 21, 2016)