Sharon Magdalene Clarke* (sharon.clarke@pepperdine.edu), 24255 Pacific Coast Highway, Malibu, CA 90263, and Daniel D. Anderson. When the $v$-Operation Distributes Over Intersections. Preliminary report.

Let $D$ be an integral domain. It is well known and easily proved that for $A \in F(D)$ with $A = \sum A_\alpha$ where each $A_\alpha \in F(D)$, we have $A^{-1} = (\sum A_\alpha)^{-1} = \bigcap A_\alpha^{-1}$. Since $\sum$ and $\bigcap$ are dual, this raises the question of whether $(\bigcap A_\alpha)^{-1} = \sum A_\alpha^{-1}$ where $\{A_\alpha\} \subseteq F(D)$ with $\bigcap A_\alpha \neq 0$. We investigate when $(\bigcap A_\alpha)^{-1} = \sum A_\alpha^{-1}$ or $(\bigcap A_\alpha)^{-1} = (\sum A_\alpha^{-1})_v$ (equivalently, $(\bigcap A_\alpha)_v = (\sum (A_\alpha)_v)$ for certain families $\{A_\alpha\}$ of fractional ideals of $D$. (Received January 25, 2005)