962-13-1132 **Thomas G. Lucas*** (`tglucas@email.uncc.edu`), Department of Mathematics, University of North Carolina Charlotte, Charlotte, NC 28223. *Rings, conditional expectations and localizations.* Preliminary report.

Let $R \subset S$ be a pair of reduced rings with the same identity where the total quotient ring of each is von Neumann regular. Let E_R (E_S) denote the set of idempotents of R (S) and assume that each element $r \in R$ ($s \in S$) can be written in the form $r = et$ ($s = fv$) for some regular element $t \in R$ ($v \in S$) and some idempotent $e \in E_R$ ($f \in E_S$). For a pair of idempotents e and f, set $e \leq f$ if $ef = e$. An R-module homomorphism $\varphi : S \to R$ is said to be a "conditional expectation" if (i) for $f \in E_S$, $\varphi(f) = 0$ implies $f = 0$, and (ii) if $\varphi(sf) = 0$ for each $f \in E_S$, then $s = 0$. Assume such a mapping exists. Then for each $f \in E_S$ there is a unique pair of idempotents $f^\sharp, f_\sharp \in E_R$ such that (i) $f_\sharp \leq f \leq f^\sharp$, (ii) $g \in E_R$ with $f \leq g$ implies $f^\sharp \leq g$, and (iii) $h \in E_R$ with $h \leq f$ implies $h \leq f_\sharp$. Fix $f \in E_S$ and set $t = \varphi(f) + (1 - f^\sharp)$. Let $T = \{t^n | n \geq 0\}$ and say that f "localizes" R if $fS_T = fR_T$. Several equivalent conditions will be given. Examples will be drawn from rings of L^∞ functions of comparable complete probability measures. (Received October 02, 2000)