1035-13-1141 **Hamid Rahmati*** (hrahmati@math.unl.edu), 203 Avery Hall, Department of Mathematics, University of Nebraska, Lincoln, NE 68588. *Contracting Endomorphisms and Gorenstein Modules.* Preliminary report.

A finite module M over a noetherian local ring $(R, \mathfrak{m}, k)$ is said to be Gorenstein if $\mathrm{Ext}^{\mathrm{i}}_{\mathrm{R}}(\mathrm{k}, \mathrm{M}) = 0$ for all $i \neq \dim R$. A endomorphism $\varphi\colon R \to R$ of rings is called contracting if $\varphi^i(\mathfrak{m}) \subseteq \mathfrak{m}^2$ for some $i \geq 1$. Letting ${}^{\varphi}R$ denote the R-module R with action induced by φ, we prove: A finite R-module M is Gorenstein if and only if $\mathrm{Hom}_{\mathrm{R}}({}^{\varphi}\mathrm{R}, \mathrm{M}) \cong \mathrm{M}$ and $\mathrm{Ext}^{\mathrm{i}}_{\mathrm{R}}({}^{\varphi}\mathrm{R}, \mathrm{M}) = 0$ for $1 \leq i \leq \mathrm{depth R}$. (Received September 18, 2007)