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ON LOCALLY NILPOTENT ENDOMORPHISMS OF GORENSTEIN INJECTIVE MODULES

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Abstract. In this paper, we generalize the idea of injective envelopes to the Ω-envelopes. We find more general conditions for local nilpotent homorphisms with the Ω-envelopes. Also we define the Gorenstein injective envelopes and prove similar theorems about the envelopes and find relations among the injective envelopes, Gorenstein injective envelopes and Ω-envelopes. Finally we can prove that if the base ring R is an n-Gorenstein and $\{(G_i), \psi_j^i\}$ is a directed system of Gorenstein injective R-modules, then $\varinjlim G_i$ is Gorenstein injective.

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