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Chain Numbers of Modules. Preliminary report.

Given an R -module M , a family (M_α) , $\alpha < \lambda$, is called a continuous chain of submodules of M if whenever $\alpha < \beta < \lambda$, then M_α is contained in M_β , and if λ is a limit ordinal, then M_λ is the union of all M_α for all ordinals α less than λ . We say that a limit ordinal λ is a chain number for a module M if whenever $M = \bigcup_{\alpha < \lambda} M_\alpha$ and f is an R -linear homomorphism from N to M , then $f(N)$ is contained in some M_α for some $\alpha < \lambda$.

I will present some results concerning chain numbers of modules. (Received October 02, 2000)