SHORTER NOTES

The purpose of this department is to publish very short papers of an unusually elegant and polished character, for which there is no other outlet.

AN EMPTY INVERSE LIMIT

WILLIAM C. WATERHOUSE

This note gives a simple natural example of a surjective inverse limit system with empty limit.

For each finite subset $\alpha$ of the uncountable set $R$, let $X_\alpha$ be the set of injections of $\alpha$ into the integers. Each $X_\alpha$ is countable, and for $\alpha \subseteq \beta$ the restriction map $X_\beta \rightarrow X_\alpha$ is surjective. But the inverse limit of the $X_\alpha$ is empty, since an element of it would give an injection of $R$ into the integers.

REFERENCES


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Received by the editors May 12, 1972.