

On maximal ℓ -ideals of rings of continuous integer-valued functions

Themba Dube

The maximal ℓ -ideals of the ring $C(X, \mathbb{Z})$ of continuous integer-valued functions on a topological space X were characterised by Subramanian [1] to be exactly the minimal prime ideals of this ring. In this talk I will supplement this result by showing that, in fact, these ideals are also exactly the maximal z -ideals, exactly the maximal d -ideals, and exactly the maximal pure ideals of this ring. By first casting everything in the category **ODFrm** of zero-dimensional frames, I will show that what has just been said holds in any ring $\mathfrak{Z}L$ of continuous integer-valued functions on a zero-dimensional frame L . The ideals in question will be described in terms of the cozero map. They are precisely the inverse images (under the cozero map) of the points of the universal zero-dimensional compactification of L .

REFERENCES

- [1] H. Subramanian, *Integer-valued continuous functions*. Bull. Soc. Math. France 97 (1969), 275–283.