

Algebraic Characterization of Sheaves over Boolean Spaces

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Abstract : A compact Hausdorff and totally disconnected topological space are known as Boolean space in view of the stone duality between Boolean algebras and such topological spaces. A sheaf over X is a triple (S, p, X) where S and X are topological spaces and p is a local homeomorphism of S onto X (that is, for each element s in S , there exist open sets U and G containing s and $p(s)$ in S and X respectively such that the restriction of p to U is a homeomorphism of U onto G). Here we mainly concern on sheaves over Boolean spaces. From a given sheaf over a Boolean space, we obtain an algebraic structure in such a way that there is a one-to-one correspondence between these algebraic structures and sheaves over Boolean spaces.

Keywords : Boolean algebra, Boolean space, sheaf, stone duality

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