H. Röhrl
9322 La Jolla Farms Road, La Jolla, CA 92037-1125, U.S.A.

The Category $Cv_{D_0,N}$-Cmod and MP

This paper deals with the halfing morphism of $Cv_{D_0,N}$-convex modules, where D_0 is the semiring of non-negative dyadic rationals, and its use in the explicit construction of the left adjoint to the functor $O_{D_0,N} : D_0\text{-}\mathbf{Mod} \longrightarrow Cv_{D_0,N}\text{-}\mathbf{Cmod}$ that assigns to each D_0-module its canonical $Cv_{D_0,N}$-convex module. Furthermore it is shown that $Cv_{D_0,N}$-**Cmod** is isomorphic to the category **MP** of midpoint algebras.

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