Bimonadic adjunctions and the Explicit Basis property

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Abstract.

Call an adjunction $L \dashv R : \mathcal{X} \to \mathcal{Y}$ *bimonadic* if R is monadic and L comonadic. (For example, for many monads on the category of sets, the induced Eilenberg-Moore adjunction is bimonadic [1, 2]. Also, many of the examples in [3] suggest that it is not uncommon for monads satisfying the Explicit Basis (EB) property to induce bimonadic Eilenberg-Moore adjunctions.) For such an adjunction, denote by M the induced monad on $\mathcal{Y}$ and by C the induced comonad on $\mathcal{X}$. Following a suggestion by F. W. Lawvere we characterize the comonads C such that M satisfies the EB property.

References

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