

XMod version 2.002 – old and new names

Christopher D Wensley and Murat Alp

January 7, 2004

Crossed Modules

| | |
|---|---|
| Source(X) Range(X) Boundary(X) X.aut X.action XModName | Source(X) Range(X) Boundary(X) (now for PreXMods) AutoGroup(X) XModAction(X) SetName |
| XMod IsXMod XModPrint ConjugationXMod CentralExtensionXMod AutomorphismXMod InnerAutomorphismXMod TrivialActionXMod RModuleXMod XModSelect | XMod, XModByBoundaryAndAction IsXMod Display XModByNormalSubgroup XModByCentralExtension XModByGroupOfAutomorphisms, XModByAutomorphismGroup XModByInnerAutomorphismGroup XModByTrivialAction XModByAbelianModule |
| IsConjugation IsSimplyConnected IsCentralExtension IsAutomorphismXMod IsTrivialAction IsRModule IsZeroBoundary WhatTypeXMod DirectProduct SubXMod IsSubXMod IdentitySubXMod IsNormalSubXMod NormalSubXMods FactorXMod | IsNormalSub2dObject IsCentralExtension2dObject IsAutomorphismGroup2dObject IsTrivialAction2dObject IsAbelianModule2dObject DirectProductOp SubXMod IsSubXMod IdentitySubXMod IsNormalSub2dObject NormalSubXMods |

Crossed module morphisms

| | |
|-----------------------|----------------------------------|
| XModMorphism | XModMorphism, XModMorphismByHoms |
| IsXModMorphism | IsXModMorphism |
| mor.sourceHom | SourceHom |
| mor.rangeHom | RangeHom |
| XModMorphismPrint | Display |
| XModMorphismName | SetName |
| InclusionMorphism | |
| ImageXModMorphism | ImagesSource |
| InnerAutomorphism | InnerAutomorphismXMod |
| CompositeMorphism | CompositionMorphism |
| Source XModXPMorphism | |

Cat1-groups

| | |
|--------------------|----------------------------|
| Cat1 | Cat1 |
| IsCat1 | IsCat1 |
| C.tail | Tail(C) (now for PreCat1s) |
| C.head | Head(C) (now for PreCat1s) |
| C.embedRange | RangeEmbedding(C) |
| C.embedKernel | KernelEmbedding(C) |
| C.kernel | |
| C.boundary | |
| Cat1Print | Display |
| Cat1Name | SetName |
| ConjugationCat1 | Cat1ByNormalSubgroup |
| XModCat1 | XModOfCat1 |
| Cat1XMod | Cat1OfXMod |
| SemidirectCat1XMod | |
| ReverseCat1 | Reverse |
| Cat1Select | (none) |
| SubCat1 | SubCat1 |
| IsSubCat1 | IsSubCat1 |
| IdentitySubCat1 | IdentitySubCat1 |
| NormalSubCat1s | |
| AllCat1s | (none) |

Morphisms of cat1-groups

| | |
|--------------------------------|----------------------------------|
| Cat1Morphism | Cat1Morphism, Cat1MorphismByHoms |
| IsCat1Morphism | IsCat1Morphism |
| Cat1MorphismPrint | Display |
| Cat1MorphismName | SetName |
| Cat1MorphismSourceHomomorphism | |
| ReverseIsomorphismCat1 | ReverseIsomorphism |
| Cat1MorphismXModMorphism | Cat1MorphismOfXModMorphism |
| XModMorphismCat1Morphism | XModMorphismOfCat1Morphism |

Derivations

| | |
|------------------------------------|--|
| XModDerivationByImages | DerivationByImages, DerivationByImagesNC |
| IsDerivation | IsDerivation |
| chi.genimages | GeneratorImages(chi) |
| chi.genpos | ImagePositions(chi) |
| DerivationImage | DerivationImage |
| DerivationImages | |
| InnerDerivation | PrincipalDerivation |
| ListInnerDerivations | PrincipalDerivations |
| IsRegular | IsRegularDerivation |
| RegularDerivations | RegularDerivations |
| AllDerivations | AllDerivations |
| DerivationsSorted | |
| DerivationTable | |
| AreDerivations | |
| DerivationSection | DerivationBySection |
| CompositeDerivation | CompositeDerivation |
| WhiteheadGroupTable | WhiteheadGroupTable |
| WhiteheadMonoidTable | WhiteheadMonoidTable |
| InverseDerivations | InverseDerivations |
| ListInverseDerivations | ListInverseDerivations |
| SourceEndomorphismDerivation | SourceEndomorphism (for UpMappings) |
| TableSourceEndomorphismDerivations | |
| RangeEndomorphismDerivation | RangeEndomorphism (for UpMappings) |
| TableRangeEndomorphismDerivations | |
| XModEndomorphismDerivation | Object2dEndomorphism (for UpMappings) |

Sections

| | |
|---------------------------|------------------------------------|
| Cat1SectionByImages | SectionByImages, SectionByImagesNC |
| IsSection | IsSection |
| SectionImage | SectionImage |
| SectionImages | |
| InnerSection | PrincipalSection |
| ListInnerSections | PrincipalSections |
| IsRegular | IsRegularSection |
| RegularSections | RegularSections |
| AllSections | AllSections |
| AreSections | |
| SectionDerivation | SectionByDerivation |
| CompositeSection | CompositeSection |
| SourceEndomorphismSection | SourceEndomorphism |
| RangeEndomorphismSection | RangeEndomorphism |
| Cat1EndomorphismSection | Object2dEndomorphism |

Actors

| | |
|-----------------------------|-----------------------------|
| ActorSquareRecord | |
| WhiteheadPermGroup | WhiteheadPermGroup |
| Whitehead | WhiteheadXMod |
| AutomorphismPermGroup | AutomorphismPermGroup |
| XModMorphismAutoPerm | |
| ImageAutomorphismDerivation | ImageAutomorphismDerivation |
| Norrie | NorrieXMod |
| Lue | LueXMod |
| Actor | ActorXMod, ActorCat1 |
| InnerMorphism | InnerMorphism |
| InnerActor | InnerActorXMod |

Induced constructions

| | |
|-----------------|-----------------|
| InducedXMod | InducedXMod |
| AllInducedXMods | AllInducedXMods |
| InducedCat1 | InducedCat1 |
| AllInducedCat1s | AllInducedCat1s |

Utilities

| | |
|-------------------------|-------------------------|
| InclusionMorphism | InclusionMapping |
| ZeroMorphism | ZeroMapping |
| EndomorphismClasses | EndomorphismClasses |
| EndomorphismImages | EndomorphismImages |
| IdempotentImages | IdempotentImages |
| InnerAutomorphismGroup | InnerAutomorphismGroup |
| IsAutomorphismGroup | |
| AutomorphismPair | |
| IsAutomorphismPair | |
| AutomorphismPermGroup | |
| IsRModule | IsAbelianModule |
| FpPair | |
| IsFpPair | |
| SemidirectPair | |
| IsSemidirectPair | |
| PrintList | Display |
| DistinctRepresentatives | DistinctRepresentatives |
| CommonRepresentatives | CommonRepresentatives |
| CommonTransversal | CommonTransversal |
| IsCommonTransversal | IsCommonTransversal |