entailment_sentences_disagrees

- Premise: We define exact sequences in the enchilada category of C*-algebras and correspondences, and prove that the reduced-crossed-product functor is not exact for the enchilada categories
- Hypothesis: The reduced-crossed-product functor is exact for some categories of C*-algebras and correspondences, but not for the enchilada categories.
- Label: entailment
- Machine Label: neutral

- Premise: Our motivation was to determine whether we can have a better understanding of the Baum-Connes conjecture by using enchilada categories
- Hypothesis: Enchilada categories can provide a better understanding of the Baum-Connes conjecture.
- Label: entailment
- Machine Label: neutral

- Premise: We derive three equivalent necessary conditions for a small category to have homological dimension one, generalizing a result of Novikov
- Hypothesis: The small category has homological dimension one if and only if it satisfies the three necessary conditions derived in the paper.
- Label: entailment

- Machine Label: neutral

- Premise: As a consequence, any small cancellative category of homological dimension one is embeddable in a groupoid.
- Hypothesis: Any category of homological dimension one that is not embeddable in a groupoid is not cancellative.
- Label: entailment
- Machine Label: neutral

- Premise: Etendues and locally decidable toposes are seemingly petit and have a natural common generalization in sites with all idempotents identities
- Hypothesis: Sites with all idempotents identities encompass etendues and locally decidable toposes as special cases.
- Label: entailment
- Machine Label: contradiction

- Premise: A site criterion for petit toposes will probably require subcanonical sites.
- Hypothesis: The site criterion for petit toposes will not require non-subcanonical sites.
- Label: entailment
- Machine Label: neutral

- Premise: These behave well with respect to composition, but in general fail to have identities
- Hypothesis: The objects being referred to are mathematical structures or operations.

- Label: entailment
- Machine Label: neutral

- Premise: For m >= n > 0, a map f between pointed spaces is said to be a weak [n,m]-equivalence if f induces isomorphisms of the homotopy groups \pi_k for n <= k <= m~
- Hypothesis: A map f between pointed spaces is a weak [n,m]-equivalence if and only if f induces isomorphisms of the homotopy groups \pi_k for n <= k <= m.
- Label: entailment
- Machine Label: neutral

- Premise: Two sketches are K-multilinear if and only if the two sketches are K-compatible
- Hypothesis: Two sketches are K-compatible if and only if they are K-multilinear.
- Label: entailment
- Machine Label: contradiction

- Premise: This property then extends to strong Colimits of sketches. We shall use the technically useful property of limited completeness and completeness of every category of models of sketches
- Hypothesis: The property of congruence lattices being isomorphic extends to strong colimits of sketches due to limited completeness and completeness of every category of models of sketches.
- Label: entailment

- Machine Label: neutral

- Premise: We define a localization L of a category E to be quintessential if the left adjoint to the inclusion functor is also right adjoint to it, and persistent if L is closed under subobjects in E

- Hypothesis: A localization L of a category E is quintessential and persistent if and only if the left adjoint to the inclusion functor is also right adjoint to it and L is closed under subobjects in E.

- Label: entailment

- Machine Label: neutral

- Premise: We introduce as a tool a new and simple description of wedge (= exterior) products of differential forms in this context.

- Hypothesis: The new description of wedge products applies specifically to differential forms in this context.

- Label: entailment

- Machine Label: neutral

- Premise: Left Kan extension (also called "existential quantification") along a strong promonoidal functor is shown to be a strong monoidal functor

- Hypothesis: Left Kan extension along a strong promonoidal functor is a well-defined mathematical operation.

- Label: entailment

- Machine Label: neutral

- Premise: A Fourier-like transform of presheaves is defined and shown to take convolution product to cartesian product.

- Hypothesis: The Fourier-like transform of presheaves preserves convolution product.
- Label: entailment
- Machine Label: contradiction

- Premise: The purpose is to give a simple proof that a category is equivalent to a small category if and only if both it and its presheaf category are locally small.
- Hypothesis: A category and its presheaf category are locally small if and only if they are equivalent to a small category.
- Label: entailment
- Machine Label: contradiction

- Premise: In this context, it is particularly relevant to ask which tilings may be joined together, two rectangles at a time, to form one large rectangle
- Hypothesis: It is relevant to consider the relationship between the tile sizes and shapes when attempting to join two rectangles together to form a larger rectangle.
- Label: entailment
- Machine Label: neutral

- Premise: Their universal properties can then be derived with standard techniques as used in duality theory.
- Hypothesis: The universal properties of adjoint functors can be derived using techniques from duality theory.
- Label: entailment
- Machine Label: neutral

- Premise: This simplifies the construction substantially, especially in the case of a non-symmetric biclosed monoidal category
- Hypothesis: The construction is less simplified in the case of a symmetric biclosed monoidal category.
- Label: entailment
- Machine Label: neutral

- Premise: In any FILL category, it is possible to isolate a full subcategory of objects (the ``nucleus'') for which this transformation is an isomorphism
- Hypothesis: In a FILL category, the transformation is not an isomorphism for all objects outside of the "nucleus" full subcategory.
- Label: entailment
- Machine Label: neutral

- Premise: Ed Keenan observed that this was false for finite models since equality is a definable predicate in such cases
- Hypothesis: Equality is not a definable predicate for infinite models.
- Label: entailment
- Machine Label: neutral

- Premise: Let E be a simplicial commutative algebra such that E_n is generated by degenerate elements
- Hypothesis: Every element in E_n can be expressed as a linear combination of degenerate elements.

- Label: entailment
- Machine Label: neutral

- Premise: It is shown that in this case the nth term of the Moore complex of E is generated by images of certain pairings from lower dimensions
- Hypothesis: The Moore complex of E has a finite number of terms.
- Label: entailment
- Machine Label: contradiction

- Premise: Some examples are parity c omplexes, pasting schemes and directed complexes
- Hypothesis: Examples of mathematical objects include parity complexes, pasting schemes, and directed complexes.
- Label: entailment
- Machine Label: neutral

- Premise: This category is of interest since good equivariant cohomology theories are Mackey functor valued
- Hypothesis: Good equivariant cohomology theories are not valued by non-Mackey functors.
- Label: entailment
- Machine Label: neutral

- Premise: Further, examples are given to show that, when these conditions aren't met, this interaction can be quite bad

- Hypothesis: When the conditions are met, the interaction is not bad.
- Label: entailment
- Machine Label: neutral

- Premise: Similar misbehavior occurs in two categories of global Mackey functors which are widely used in the study of classifying spaces of finite groups
- Hypothesis: The misbehavior in the two categories of global Mackey functors may be related to the study of classifying spaces of finite groups.
- Label: entailment
- Machine Label: neutral

- Premise: Using the Chu-construction, we define a group algebra for topological Hausdorff groups
- Hypothesis: The Chu-construction can be used to define a group algebra for any topological Hausdorff group.
- Label: entailment
- Machine Label: neutral

- Premise: $({\cal U},\eta,\mu)$ fails to be a monad on $\bi{Rel}$ only because η is not a strict natural transformation
- Hypothesis: If η were a strict natural transformation, $(\mathcal{U}, \eta, \mu)$ would be a monad on $\mathbf{Rel}$.
- Label: entailment
- Machine Label: neutral

- Premise: We define the notion of enriched Lawvere theory, for enrichment over a monoidal biclosed category V that is locally finitely presentable as a closed category

- Hypothesis: The definition of enriched Lawvere theory only applies to monoidal biclosed categories that are locally finitely presentable as closed categories.

- Label: entailment

- Machine Label: neutral

- Premise: This all extends routinely to local presentability with respect to any regular cardinal

- Hypothesis: Local smallness of presentable categories depends only on regular cardinals.

- Label: entailment

- Machine Label: contradiction

- Premise: We give a procedure for calculating the coefficients in such series and a concrete test for determining whether a function is of this type

- Hypothesis: There exists a procedure for calculating the coefficients in an infinite series and a concrete test for determining whether a function is of that type.

- Label: entailment

- Machine Label: neutral

- Premise: We prove the following facts about typed lambda calculus with uniqueness for primitive recursors: (i) It is undecidable, (ii) Church-Rosser fails, although ground

Church-Rosser holds, (iii) strong normalization (termination) is still valid
- Hypothesis: Typed lambda calculus with uniqueness for primitive recursors has undecidability, Church-Rosser failure (for non-ground terms), and strong normalization.
- Label: entailment
- Machine Label: neutral

- Premise: Our treatment of overt discrete spaces and open maps is precisely dual to that of compact Hausdorff spaces and proper maps. The category of overt discrete spaces forms a pretopos and the paper concludes with a converse of Paré's theorem (that the contravariant powerset functor is monadic) that characterises elementary toposes by means of the monadic and Euclidean properties together with all quantifiers, making no reference to subsets.
- Hypothesis: The category of compact Hausdorff spaces forms a pretopos.
- Label: entailment
- Machine Label: contradiction

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neutral_sentences_disagrees

- Premise: We solve the word problem for free double categories without equations between generators by translating it to the word problem for 2-categories

- Hypothesis: The word problem for free double categories with equations between generators can be solved by translating it to the word problem for 2-categories.
- Label: neutral
- Machine Label: contradiction

- Premise: The translation is of interest in its own right since and can for instance be used to reason about double categories with the language of 2-categories, sidestepping the pinwheel problem
- Hypothesis: The language of 2-categories can be used to reason about double categories.
- Label: neutral
- Machine Label: entailment

- Premise: It also shows that although double categories are formally more general than 2-categories, they are not actually more expressive, explaining the rarity of applications of this notion.
- Hypothesis: Double categories are less frequently used than 2-categories in applications.
- Label: neutral
- Machine Label: entailment

- Premise: This paper introduces ∞- and n-fold vector bundles as special functors from the ∞- and n-cube categories to the category of smooth manifolds
- Hypothesis: ∞- and n-fold vector bundles can be represented as special functors.

- Label: neutral
- Machine Label: entailment

- Premise: We study the cores and "n-pullbacks" of n-fold vector bundles and we prove that any n-fold vector bundle admits a non-canonical isomorphism to a decomposed n-fold vector bundle
- Hypothesis: Any n-fold vector bundle can be decomposed into a non-canonical isomorphism to a decomposed n-fold vector bundle.
- Label: neutral
- Machine Label: entailment

- Premise: A colimit argument then shows that ∞-fold vector bundles admit as well non-canonical decompositions
- Hypothesis: ∞-fold vector bundles can be decomposed in multiple ways.
- Label: neutral
- Machine Label: entailment

- Premise: We construct three classes of generalised orbifolds of Reshetikhin-Turaev theory for a modular tensor category C, using the language of defect TQFT: (i) spherical fusion categories give orbifolds for the "trivial" defect TQFT associated to Vect, (ii) G-crossed extensions of C give group orbifolds for any finite group G, and (iii) we construct orbifolds from commutative Δ-separable Frobenius algebras in C
- Hypothesis: There exist three classes of generalised orbifolds of Reshetikhin-Turaev theory for a modular tensor category C.

- Label: neutral
- Machine Label: entailment

- Premise: We also explain how the Turaev-Viro state sum construction fits into our framework by proving that it is isomorphic to the orbifold of case (i)
- Hypothesis: The Turaev-Viro state sum construction is isomorphic to the orbifold of case (i).
- Label: neutral
- Machine Label: entailment

- Premise: For case (ii) we show how Morita equivalence leads to isomorphic orbifolds, and we discuss Tambara-Yamagami categories as particular examples.
- Hypothesis: Morita equivalence leads to isomorphic orbifolds.
- Label: neutral
- Machine Label: entailment

- Premise: Suppose an extension map $U: T_1 \to T_0$ in the 2-category Con of contexts for arithmetic universes satisfies a Chevalley criterion for being an (op)fibration in Con
- Hypothesis: The extension map U satisfies the Chevalley criterion for being an (op)fibration in Con.
- Label: neutral
- Machine Label: entailment

- Premise: If M is a model of T_0 in an elementary topos S with nno, then the classifier $p: S[T_1/M] \to S$ satisfies the

representable definition of being an (op)fibration in the 2-category ETop of elementary toposes (with nno) and geometric morphisms.

- Hypothesis: The classifier p satisfies the representable definition of being an (op)fibration in the 2-category ETop.
- Label: neutral
- Machine Label: entailment

- Premise: The right adjoint of this Quillen equivalence is the classical Segal's Nerve functor.
- Hypothesis: The Quillen equivalence involves a left adjoint.
- Label: neutral
- Machine Label: contradiction

- Premise: Along the way we prove numerous results showing that the enchilada category is rather strange.
- Hypothesis: The enchilada category has some unique properties.
- Label: neutral
- Machine Label: entailment

- Premise: We construct combinatorial model category structures on the categories of (marked) categories and (marked) preadditive categories, and we characterize (marked) additive categories as fibrant objects in a Bousfield localization of preadditive categories
- Hypothesis: Marked additive categories are fibrant objects in a Bousfield localization of preadditive categories with combinatorial model category structures.

- Label: neutral
- Machine Label: entailment

- Premise: These model category structures are used to present the corresponding infinity-categories obtained by inverting equivalences
- Hypothesis: The infinity-categories obtained by inverting equivalences can be presented using model category structures.
- Label: neutral
- Machine Label: entailment

- Premise: We apply these results to explicitly calculate limits and colimits in these infinity-categories
- Hypothesis: Explicit calculation of limits and colimits is possible in these infinity-categories.
- Label: neutral
- Machine Label: entailment

- Premise: The motivating application is a systematic construction of the equivariant coarse algebraic K-homology with coefficients in an additive category from its non-equivariant version.
- Hypothesis: The equivariant coarse algebraic K-homology with coefficients in an additive category can be systematically constructed from its non-equivariant version.
- Label: neutral
- Machine Label: entailment

- Premise: We generalize the notions of shifted double Poisson and shifted double Lie-Rinehart structures to monoids in a symmetric monoidal abelian category

- Hypothesis: Monoids in a symmetric monoidal abelian category have shifted double Poisson and shifted double Lie-Rinehart structures.

- Label: neutral

- Machine Label: entailment

- Premise: The main result is that an n-shifted double Lie-Rinehart structure on a pair (A,M) is equivalent to a non-shifted double Lie-Rinehart structure on the pair (A,M[-n]).

- Hypothesis: Double Lie-Rinehart structures on (A,M) with different shift values are not equivalent.

- Label: neutral

- Machine Label: contradiction

- Premise: We show in particular that categories enriched in cubical sets provide a convenient way to describe many infinity-categories appearing in the context of homological algebra.

- Hypothesis: Categories enriched in cubical sets are a useful tool for describing infinity-categories in the context of homological algebra.

- Label: neutral

- Machine Label: entailment

- Premise: We observe that ParOrd(C) is a reflective subcategory of PreOrd(C) such that each component of the unit of the adjunction is a pullback-stable regular epimorphism
- Hypothesis: Pullback-stable regular epimorphisms are characteristic of the reflective subcategory of PreOrd(C).
- Label: neutral
- Machine Label: entailment

- Premise: The reflector F: PreOrd(C) -> PardOrd(C) turns out to have stable units in the sense of Cassidy, Hébert and Kelly, thus inducing an admissible categorical Galois structure
- Hypothesis: The reflector F induces an admissible categorical Galois structure.
- Label: neutral
- Machine Label: entailment

- Premise: In particular, when C is the category Set of sets, we show that this reflection induces a monotone-light factorization system (in the sense of Carboni, Janelidze, Kelly and Paré) in PreOrd(Set)
- Hypothesis: The reflection induces a monotone-light factorization system in PreOrd(Set).
- Label: neutral
- Machine Label: entailment

- Premise: A topological interpretation of our results in the category of Alexandroff-discrete spaces is also given, via the well-known isomorphism between this latter category and

PreOrd(Set).

- Hypothesis: Results in Alexandroff-discrete spaces can be interpreted topologically through the isomorphism with PreOrd(Set).
- Label: neutral
- Machine Label: entailment

- Premise: While cells in a virtual double category classically have a horizontal multi-source and single horizontal target, the notion of augmented virtual double category introduced here extends the latter notion by including cells with empty horizontal target as well. Any augmented virtual double category comes with a built-in notion of "locally small object" and we describe advantages of using augmented virtual double categories as a setting for formal category rather than 2-categories, which are classically equipped with a notion of "admissible object" by means of a yoneda structure in the sense of Street and Walters. An object is locally small precisely if it admits a horizontal unit, and we show that the notions of augmented virtual double category and virtual double category coincide in the presence of all horizontal units
- Hypothesis: Using augmented virtual double categories as a setting for formal category is advantageous compared to using 2-categories.
- Label: neutral
- Machine Label: entailment

- Premise: Without assuming the existence of horizontal units we show that most of the basic theory for virtual double categories,

such as that of restriction and composition of horizontal morphisms, extends to augmented virtual double categories

- Hypothesis: Basic theory for virtual double categories extends to augmented virtual double categories without the assumption of horizontal units.
- Label: neutral
- Machine Label: entailment

- Premise: We introduce and study in augmented virtual double categories the notion of "pointwise" composition of horizontal morphisms, which formalises the classical composition of profunctors given by the coend formula.
- Hypothesis: The classical composition of profunctors can be formalized using the notion of "pointwise" composition of horizontal morphisms in augmented virtual double categories.
- Label: neutral
- Machine Label: entailment

- Premise: We show the relevance of this new homology with values in s-modules by proving that taking as coefficients the s-modules at the archimedean place over the structure sheaf on Spec(Z), one obtains on the singular homology with real coefficients of a topological space X, a norm equivalent to the Gromov norm
- Hypothesis: The new homology with values in s-modules has a norm equivalent to the Gromov norm on the singular homology with real coefficients of a topological space X, when taking as coefficients the s-modules at the archimedean place over the

structure sheaf on Spec(Z).

- Label: neutral
- Machine Label: entailment

- Premise: Moreover, we prove that the two norms agree when X is an oriented compact Riemann surface.
- Hypothesis: The two norms agree on oriented compact Riemann surfaces.
- Label: neutral
- Machine Label: entailment

- Premise: We derive three equivalent necessary conditions for a small category to have homological dimension one, generalizing a result of Novikov
- Hypothesis: Small categories with homological dimension one satisfy three equivalent necessary conditions, which generalize a result of Novikov.
- Label: neutral
- Machine Label: entailment

- Premise: As a consequence, any small cancellative category of homological dimension one is embeddable in a groupoid.
- Hypothesis: Small cancellative categories of homological dimension one can be embedded in a groupoid.
- Label: neutral
- Machine Label: entailment

- Premise: In this article we give necessary and sufficient conditions for a binary product to exist in a partial morphism category

- Hypothesis: There exist binary products in the partial morphism category.

- Label: neutral

- Machine Label: entailment

- Premise: To unify the study of topological and combinatorial persistence in a common categorical framework, we give axioms for a generalized rank function on objects in a target category so that functors to that category induce persistence functions

- Hypothesis: A generalized rank function on objects in the target category can unify the study of topological and combinatorial persistence.

- Label: neutral

- Machine Label: entailment

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contradiction_sentences_disagrees

- Premise: This paper introduces ∞- and n-fold vector bundles as special functors from the ∞- and n-cube categories to the category of smooth manifolds

- Hypothesis: All functors from the ∞- and n-cube categories to the category of smooth manifolds are ∞- and n-fold vector bundles.

- Label: contradiction

- Machine Label: neutral

- Premise: We study the cores and "n-pullbacks" of n-fold vector bundles and we prove that any n-fold vector bundle admits a non-canonical isomorphism to a decomposed n-fold vector bundle
- Hypothesis: Every n-fold vector bundle is uniquely isomorphic to a decomposed n-fold vector bundle.
- Label: contradiction
- Machine Label: entailment

- Premise: We construct three classes of generalised orbifolds of Reshetikhin-Turaev theory for a modular tensor category C, using the language of defect TQFT: (i) spherical fusion categories give orbifolds for the "trivial" defect TQFT associated to Vect, (ii) G-crossed extensions of C give group orbifolds for any finite group G, and (iii) we construct orbifolds from commutative Δ-separable Frobenius algebras in C
- Hypothesis: All generalised orbifolds of Reshetikhin-Turaev theory can be constructed using only commutative Δ-separable Frobenius algebras in C.
- Label: contradiction
- Machine Label: neutral

- Premise: We also explain how the Turaev-Viro state sum construction fits into our framework by proving that it is isomorphic to the orbifold of case (i)
- Hypothesis: The Turaev-Viro state sum construction is the only way to fit into the framework discussed.
- Label: contradiction
- Machine Label: neutral

- Premise: For case (ii) we show how Morita equivalence leads to isomorphic orbifolds, and we discuss Tambara-Yamagami categories as particular examples.
- Hypothesis: Morita equivalence does not apply to all orbifolds.
- Label: contradiction
- Machine Label: neutral

- Premise: Suppose an extension map U: T_1 -> T_0 in the 2-category Con of contexts for arithmetic universes satisfies a Chevalley criterion for being an (op)fibration in Con
- Hypothesis: The extension map U is not unique.
- Label: contradiction
- Machine Label: neutral

- Premise: If M is a model of T_0 in an elementary topos S with nno, then the classifier p: S[T_1/M] -> S satisfies the representable definition of being an (op)fibration in the 2-category ETop of elementary toposes (with nno) and geometric morphisms.
- Hypothesis: Elementary toposes without nno cannot have a classifier.
- Label: contradiction
- Machine Label: neutral

- Premise: In this paper we construct a symmetric monoidal closed model category of coherently commutative monoidal categories

- Hypothesis: There is no other way to construct a symmetric monoidal closed model category of coherently commutative monoidal categories.
- Label: contradiction
- Machine Label: neutral

- Premise: We define exact sequences in the enchilada category of C*-algebras and correspondences, and prove that the reduced-crossed-product functor is not exact for the enchilada categories
- Hypothesis: The reduced-crossed-product functor is exact for all categories except the enchilada category of C*-algebras and correspondences.
- Label: contradiction
- Machine Label: neutral

- Premise: We construct combinatorial model category structures on the categories of (marked) categories and (marked) preadditive categories, and we characterize (marked) additive categories as fibrant objects in a Bousfield localization of preadditive categories
- Hypothesis: We cannot construct combinatorial model category structures on the categories of (unmarked) categories or (unmarked) preadditive categories.
- Label: contradiction
- Machine Label: neutral

- Premise: We apply these results to explicitly calculate limits and colimits in these infinity-categories

- Hypothesis: There exist infinity-categories in which limits and colimits cannot be explicitly calculated using these results.

- Label: contradiction

- Machine Label: neutral

- Premise: We generalize the notions of shifted double Poisson and shifted double Lie-Rinehart structures to monoids in a symmetric monoidal abelian category

- Hypothesis: Shifted double Poisson and shifted double Lie-Rinehart structures cannot be generalized to monoids in a non-symmetric monoidal abelian category.

- Label: contradiction

- Machine Label: neutral

- Premise: We show in particular that categories enriched in cubical sets provide a convenient way to describe many infinity-categories appearing in the context of homological algebra.

- Hypothesis: All infinity-categories in homological algebra can be described using categories enriched in cubical sets.

- Label: contradiction

- Machine Label: neutral

- Premise: A topological interpretation of our results in the category of Alexandroff-discrete spaces is also given, via the well-known isomorphism between this latter category and

PreOrd(Set).

- Hypothesis: PreOrd(Set) and Alexandroff-discrete spaces are isomorphic.
- Label: contradiction
- Machine Label: entailment

- Premise: While cells in a virtual double category classically have a horizontal multi-source and single horizontal target, the notion of augmented virtual double category introduced here extends the latter notion by including cells with empty horizontal target as well. Any augmented virtual double category comes with a built-in notion of "locally small object" and we describe advantages of using augmented virtual double categories as a setting for formal category rather than 2-categories, which are classically equipped with a notion of "admissible object" by means of a yoneda structure in the sense of Street and Walters. An object is locally small precisely if it admits a horizontal unit, and we show that the notions of augmented virtual double category and virtual double category coincide in the presence of all horizontal units
- Hypothesis: Using augmented virtual double categories is always a better choice for formal categories than 2-categories equipped with a notion of "admissible object."
- Label: contradiction
- Machine Label: neutral

- Premise: We define the homology of a simplicial set with coefficients in a Segal's Gamma-set (s-module)

- Hypothesis: The homology of a simplicial set cannot be defined with coefficients in a Segal's Delta-set (s-module).
- Label: contradiction
- Machine Label: neutral

- Premise: We show the relevance of this new homology with values in s-modules by proving that taking as coefficients the s-modules at the archimedean place over the structure sheaf on Spec(Z), one obtains on the singular homology with real coefficients of a topological space X, a norm equivalent to the Gromov norm
- Hypothesis: Taking s-modules at a non-archimedean place over the structure sheaf on Spec(Z) does not yield a norm equivalent to the Gromov norm on the singular homology with real coefficients of a topological space X.
- Label: contradiction
- Machine Label: neutral

- Premise: Moreover, we prove that the two norms agree when X is an oriented compact Riemann surface.
- Hypothesis: The two norms do not agree when X is not an oriented compact Riemann surface.
- Label: contradiction
- Machine Label: neutral

- Premise: As a consequence, any small cancellative category of homological dimension one is embeddable in a groupoid.

- Hypothesis: Any small cancellative category of homological dimension greater than one is not embeddable in a groupoid.
- Label: contradiction
- Machine Label: neutral

- Premise: In this article we give necessary and sufficient conditions for a binary product to exist in a partial morphism category
- Hypothesis: Commutativity is a necessary and sufficient condition for a binary product to exist in a partial morphism category.
- Label: contradiction
- Machine Label: neutral

- Premise: We also give necessary and sufficient conditions for the existence of a productive terminal in such categories.
- Hypothesis: All categories have productive terminals.
- Label: contradiction
- Machine Label: neutral

- Premise: Persistence has proved to be a valuable tool to analyze real world data robustly
- Hypothesis: All data can be analyzed using persistence.
- Label: contradiction
- Machine Label: neutral

- Premise: To illustrate our framework in practice, we give examples of multicolored persistent homology on filtered

topological spaces with a group action and labeled point cloud data.

- Hypothesis: The framework cannot be applied to unfiltered topological spaces.
- Label: contradiction
- Machine Label: neutral

- Premise: We use the homotopy invariance of equivariant principal bundles to prove that the equivariant A-category of Clapp and Puppe is invariant under Morita equivalence
- Hypothesis: All equivariant A-categories are Morita invariant.
- Label: contradiction
- Machine Label: neutral

- Premise: The term ``Boolean category'' should be used for describing an object that is to categories what a Boolean algebra is to posets
- Hypothesis: All categories are equivalent to Boolean categories.
- Label: contradiction
- Machine Label: neutral

- Premise: More specifically, a Boolean category should provide the abstract algebraic structure underlying the proofs in Boolean Logic, in the same sense as a Cartesian closed category captures the proofs in intuitionistic logic and a *-autonomous category captures the proofs in linear logic
- Hypothesis: A Boolean category cannot capture the proofs in non-Boolean logics.

- Label: contradiction
- Machine Label: neutral

- Premise: In this work, we will see a series (with increasing strength) of possible such axiomatisations, all based on the notion of *-autonomous category
- Hypothesis: All axiomatisations based on the notion of *-autonomous category have increasing strength.
- Label: contradiction
- Machine Label: entailment

- Premise: We will particularly focus on the medial map, which has its origin in an inference rule in KS, a cut-free deductive system for Boolean logic in the calculus of structures
- Hypothesis: The medial map cannot be extended to other deductive systems outside of Boolean logic in the calculus of structures.
- Label: contradiction
- Machine Label: neutral

- Premise: Finally, we will present a category of proof nets as a particularly well-behaved example of a Boolean category.
- Hypothesis: All proof nets are well-behaved in a Boolean category.
- Label: contradiction
- Machine Label: neutral

- Premise: We raise the question of saying what it means for a functor between abelian categories to preserve homology
- Hypothesis: Every functor between abelian categories preserves homology for all objects.
- Label: contradiction
- Machine Label: neutral

- Premise: A category C is additive if and only if, for every object B of C, the category Pt(C,B) of pointed objects in the comma category (C,B) is canonically equivalent to C
- Hypothesis: An additive category always contains at least one zero object.
- Label: contradiction
- Machine Label: neutral

- Premise: Etendues and locally decidable toposes are seemingly petit and have a natural common generalization in sites with all idempotents identities
- Hypothesis: The natural common generalization includes non-locally decidable toposes.
- Label: contradiction
- Machine Label: neutral

- Premise: This note shows every Grothendieck topos has such a site
- Hypothesis: Every Grothendieck topos has only one such site.
- Label: contradiction
- Machine Label: neutral