entailment_sentences_agrees

- 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 can be translated to the word problem for 2-categories.
- Label: entailment
- Machine Label: entailment

- Premise: This yields a quadratic algorithm deciding the equality of diagrams in a free double category
- Hypothesis: Deciding the equality of diagrams in a free double category can be done with a quadratic algorithm.
- Label: entailment
- Machine Label: entailment

- 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 translation can be used to reason about double categories with the language of 2-categories and avoid the pinwheel problem.
- Label: entailment
- 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: The rarity of applications of double categories may be due to their lack of expressiveness compared to 2-categories, despite their formal generality.
- Label: entailment
- 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: The functors introduced in this paper map the ∞- and n-cube categories to the category of smooth manifolds.
- Label: entailment
- 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: All n-fold vector bundles can be decomposed into cores and "n-pullbacks" and can be non-canonically isomorphic to a decomposed n-fold vector bundle.
- Label: entailment
- 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 a non-canonical way.
- Label: entailment
- Machine Label: entailment

- Premise: For the convenience of the reader, the case of triple vector bundles is discussed in detail.
- Hypothesis: The text contains discussion of triple vector bundles.
- Label: entailment
- 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: Three classes of generalised orbifolds of Reshetikhin-Turaev theory can be constructed 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) orbifolds can be constructed from commutative Δ-separable Frobenius algebras in C.

- Label: entailment
- 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) in the explained framework.
- Label: entailment
- Machine Label: entailment

- Premise: Moreover, we treat the cases (ii) and (iii) in the more general setting of ribbon tensor categories
- Hypothesis: The cases (ii) and (iii) can be treated in a more general setting of ribbon tensor categories.
- Label: entailment
- 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: Tambara-Yamagami categories are isomorphic to certain orbifolds under Morita equivalence.
- Label: entailment
- Machine Label: entailment

- 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 map U satisfies the Chevalley criterion for being an (op)fibration in Con.
- Label: entailment
- 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] -> 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: entailment
- Machine Label: entailment

- Premise: In this paper we construct a symmetric monoidal closed model category of coherently commutative monoidal categories
- Hypothesis: The paper discusses the construction of a symmetric monoidal closed model category.
- Label: entailment
- Machine Label: entailment

- Premise: The main aim of this paper is to establish a Quillen equivalence between a model category of coherently commutative monoidal categories and a natural model category of Permutative (or strict symmetric monoidal) categories, Perm, which is not a symmetric monoidal closed model category

- Hypothesis: There exists a Quillen equivalence between a model category of coherently commutative monoidal categories and a natural model category of Permutative categories which is not a symmetric monoidal closed model category.
- Label: entailment
- Machine Label: entailment

- Premise: The right adjoint of this Quillen equivalence is the classical Segal's Nerve functor.
- Hypothesis: There exists a Quillen equivalence where the right adjoint is the classical Segal's Nerve functor.
- Label: entailment
- Machine Label: entailment

- Premise: Along the way we prove numerous results showing that the enchilada category is rather strange.
- Hypothesis: The enchilada category has some unusual properties.
- Label: entailment
- 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: Additive categories can be characterized as fibrant objects in a Bousfield localization of preadditive categories with

combinatorial model category structures.

- Label: entailment
- Machine Label: entailment

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

- Premise: We apply these results to explicitly calculate limits and colimits in these infinity-categories
- Hypothesis: It is possible to calculate limits and colimits in these infinity-categories using the given results.
- Label: entailment
- 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: entailment
- 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: Shifted double Poisson and shifted double Lie-Rinehart structures can be generalized to monoids in a symmetric monoidal abelian category.

- Label: entailment

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

- Label: entailment

- Machine Label: entailment

- Premise: The goal of this article is to emphasize the role of cubical sets in enriched category theory and infinity-category theory

- Hypothesis: Cubical sets play an important role in enriched category theory and infinity-category theory.

- Label: entailment

- Machine Label: entailment

- 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 can effectively describe the infinity-categories in homological algebra.

- Label: entailment

- Machine Label: entailment

- Premise: Let PreOrd(C) be the category of internal preorders in an exact category C

- Hypothesis: There exists an exact category C such that PreOrd(C) is well-defined.

- Label: entailment

- Machine Label: entailment

- Premise: We show that the pair (Eq(C),ParOrd(C)) is a pretorsion theory in PreOrd(C), where Eq(C) and ParOrd(C) are the full subcategories of internal equivalence relations and of internal partial orders in C, respectively

- Hypothesis: (Eq(C),ParOrd(C)) forms a pretorsion theory in PreOrd(C).

- Label: entailment

- 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: ParOrd(C) has a unit component that is a pullback-stable regular epimorphism.

- Label: entailment
- 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 with stable units in the sense of Cassidy, Hébert and Kelly.
- Label: entailment
- 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 of C as the category Set of sets induces a monotone-light factorization system in PreOrd(Set) in the sense of Carboni, Janelidze, Kelly, and Paré.
- Label: entailment
- 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: Our results have a topological interpretation in the category of PreOrd(Set) via the isomorphism between

PreOrd(Set) and Alexandroff-discrete spaces.

- Label: entailment
- Machine Label: entailment

- Premise: In this article the notion of virtual double category (also known as fc-multicategory) is extended as follows
- Hypothesis: The article discusses the extension of the notion of virtual double category.
- Label: entailment
- Machine Label: entailment

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neutral_sentences_agrees

- Premise: This yields a quadratic algorithm deciding the equality of diagrams in a free double category
- Hypothesis: Deciding the equality of diagrams in a free double category can be achieved in quadratic time.
- Label: neutral
- Machine Label: neutral

- Premise: For the convenience of the reader, the case of triple vector bundles is discussed in detail.
- Hypothesis: Triple vector bundles can be difficult to understand without detailed discussion.
- Label: neutral
- Machine Label: neutral

- Premise: Moreover, we treat the cases (ii) and (iii) in the more general setting of ribbon tensor categories
- Hypothesis: Ribbon tensor categories can be used to generalize the treatment of cases (ii) and (iii) in Morita equivalent small categories.
- Label: neutral
- Machine Label: neutral

- Premise: In this paper we construct a symmetric monoidal closed model category of coherently commutative monoidal categories
- Hypothesis: The constructed symmetric monoidal closed model category has interesting homotopical properties.
- Label: neutral
- Machine Label: neutral

- Premise: The main aim of this paper is to establish a Quillen equivalence between a model category of coherently commutative monoidal categories and a natural model category of Permutative (or strict symmetric monoidal) categories, Perm, which is not a symmetric monoidal closed model category
- Hypothesis: There exists a Quillen equivalence between a model category of coherently commutative monoidal categories and a natural model category of Permutative (or strict symmetric monoidal) categories.
- Label: neutral
- 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 some categories of C*-algebras and correspondences.

- Label: neutral

- 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: Using enchilada categories can improve our understanding of the Baum-Connes conjecture.

- Label: neutral

- Machine Label: neutral

- Premise: The goal of this article is to emphasize the role of cubical sets in enriched category theory and infinity-category theory

- Hypothesis: Enriched category theory and infinity-category theory rely heavily on the use of cubical sets.

- Label: neutral

- Machine Label: neutral

- Premise: Let PreOrd(C) be the category of internal preorders in an exact category C

- Hypothesis: The exact category C has a well-defined internal category of preorders.
- Label: neutral
- Machine Label: neutral

- Premise: We show that the pair (Eq(C),ParOrd(C)) is a pretorsion theory in PreOrd(C), where Eq(C) and ParOrd(C) are the full subcategories of internal equivalence relations and of internal partial orders in C, respectively
- Hypothesis: The category C is small.
- Label: neutral
- Machine Label: neutral

- Premise: In this article the notion of virtual double category (also known as fc-multicategory) is extended as follows
- Hypothesis: The extension of virtual double categories is useful for studying fc-multicategories.
- Label: neutral
- Machine Label: neutral

- Premise: We define the homology of a simplicial set with coefficients in a Segal's Gamma-set (s-module)
- Hypothesis: Simplicial sets with different Segal's Gamma-set coefficients have different homologies.
- Label: neutral
- Machine Label: neutral

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

- Premise: Persistence has proved to be a valuable tool to analyze real world data robustly
- Hypothesis: Persistence can be applied to analyze any type of data.
- Label: neutral
- Machine Label: neutral

- Premise: Several approaches to persistence have been attempted over time, some topological in flavor, based on the vector space-valued homology functor, others combinatorial, based on arbitrary set-valued functors
- Hypothesis: The topological approach to persistence is more effective than the combinatorial approach.
- Label: neutral
- Machine Label: neutral

- 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 is applicable in other deductive systems beyond KS.

- Label: neutral
- Machine Label: neutral

- Premise: We reformulate the proof of this known result in order to obtain a stronger one that uses not all objects of B of C, but only a conveniently defined generating class S
- Hypothesis: The stronger proof based on the conveniently defined generating class S shows that congruence lattices of Morita equivalent small categories are isomorphic.
- Label: neutral
- Machine Label: neutral

- Premise: Not only it is big enough to contain all dihomotopy types, but also a morphism between them is a weak dihomotopy equivalence if and only if it is invertible up to dihomotopy
- Hypothesis: The category is a model category.
- Label: neutral
- Machine Label: neutral

- Premise: The paper generalizes the notion of a congruence on a category and pursues some of its applications
- Hypothesis: The applications pursued in the paper are significant.
- Label: neutral
- Machine Label: neutral

- Premise: Extremal, regular and various other classes of epimorphic functors are characterized and inter-related.

- Hypothesis: All epimorphic functors are inter-related.
- Label: neutral
- Machine Label: neutral

- Premise: We also investigate enrichments of these categories over the base topos; there are in fact often two distinct enrichments.
- Hypothesis: There exist small categories with two distinct enrichments over the base topos.
- Label: neutral
- Machine Label: neutral

- Premise: For this purpose, we develop a calculus of general modules between unstructured endo-1-cells
- Hypothesis: General modules between unstructured endo-1-cells can be used to prove isomorphism of congruence lattices for Morita equivalent small categories.
- Label: neutral
- 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 π_k for $n <= k <= m$~
- Hypothesis: There exists a weak [n,m]-equivalence which does not induce isomorphisms of the homotopy groups for $k < n$ or $k > m$.
- Label: neutral
- Machine Label: neutral

- Premise: Associated with this notion we give two different closed model category structures to the category of pointed spaces
- Hypothesis: The two different closed model category structures are equivalent.
- Label: neutral
- Machine Label: neutral

- Premise: Finally, the morphism f : A --> B is said to be a covering of B if, for some effective descent morphism p : E --> B, the pullback p^*f of f along p is a trivial covering of E
- Hypothesis: Morphism f : A --> B is a covering of B if and only if the pullback p^*f of f along p is a trivial covering of E.
- Label: neutral
- 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 and simple description of wedge products allows for easier manipulation of differential forms.
- Label: neutral
- Machine Label: neutral

- Premise: Calculations of the cohomology classes of some finite crossed modules are given, using crossed complex methods.
- Hypothesis: Crossed complex methods are effective in calculating cohomology classes of finite crossed modules.
- Label: neutral

- Machine Label: neutral

- Premise: A construction for the free monoidal category on a promonoidal category is provided
- Hypothesis: The free monoidal category on a promonoidal category is unique.
- Label: neutral
- 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 can be applied to any presheaf.
- Label: neutral
- Machine Label: neutral

- Premise: In this paper we study the lattice of quantic conuclei for orthomudular lattices
- Hypothesis: The lattice of quantic conuclei for orthomudular lattices is unique.
- Label: neutral
- Machine Label: neutral

- Premise: We discuss two versions of a conjecture attributed to M
- Hypothesis: The conjecture attributed to M. can be proven true in both versions.
- Label: neutral
- Machine Label: neutral

- Premise: We introduce MD-sketches, which are a particular kind of Finite Sum sketches
- Hypothesis: MD-sketches are more efficient than other kinds of Finite Sum sketches.
- Label: neutral
- Machine Label: neutral

- Premise: As a corollary, we obtain that equivalence of data-specifications is decidable.
- Hypothesis: The decidability of equivalence of data-specifications can be proven.
- Label: neutral
- Machine Label: neutral

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contradiction_sentences_agrees

- 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 cannot be solved by translation to the word problem for 2-categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: This yields a quadratic algorithm deciding the equality of diagrams in a free double category

- Hypothesis: There exists a cubic algorithm deciding the equality of diagrams in a free double category.
- Label: contradiction
- 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 translation cannot be used to reason about double categories.
- Label: contradiction
- Machine Label: contradiction

- 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: There exist a lot of applications of double categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: A colimit argument then shows that ∞-fold vector bundles admit as well non-canonical decompositions
- Hypothesis: All ∞-fold vector bundles have unique decompositions.
- Label: contradiction
- Machine Label: contradiction

- Premise: For the convenience of the reader, the case of triple vector bundles is discussed in detail.
- Hypothesis: The case of quadruple vector bundles is discussed in detail.
- Label: contradiction
- Machine Label: contradiction

- Premise: Moreover, we treat the cases (ii) and (iii) in the more general setting of ribbon tensor categories
- Hypothesis: Cases (ii) and (iii) cannot be treated in the more general setting of ribbon tensor categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: The main aim of this paper is to establish a Quillen equivalence between a model category of coherently commutative monoidal categories and a natural model category of Permutative (or strict symmetric monoidal) categories, Perm, which is not a symmetric monoidal closed model category
- Hypothesis: There is no model category of coherently commutative monoidal categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: The right adjoint of this Quillen equivalence is the classical Segal's Nerve functor.
- Hypothesis: The left adjoint of this Quillen equivalence is the classical Segal's Nerve functor.

- Label: contradiction
- Machine Label: contradiction

- Premise: Our motivation was to determine whether we can have a better understanding of the Baum-Connes conjecture by using enchilada categories
- Hypothesis: Our motivation was not to determine whether we can have a better understanding of the Baum-Connes conjecture by using pizza categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: Along the way we prove numerous results showing that the enchilada category is rather strange.
- Hypothesis: The enchilada category is a completely normal and unremarkable category.
- Label: contradiction
- Machine Label: contradiction

- Premise: These model category structures are used to present the corresponding infinity-categories obtained by inverting equivalences
- Hypothesis: Model category structures cannot be used to present the corresponding infinity-categories.
- Label: contradiction
- Machine Label: contradiction

- 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 motivating application does not involve any construction of algebraic K-homology.
- Label: contradiction
- Machine Label: contradiction

- 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: A non-shifted double Lie-Rinehart structure on (A,M) is never equivalent to a shifted double Lie-Rinehart structure on the same pair.
- Label: contradiction
- Machine Label: contradiction

- Premise: The goal of this article is to emphasize the role of cubical sets in enriched category theory and infinity-category theory
- Hypothesis: Enriched category theory can be fully understood without the use of cubical sets.
- Label: contradiction
- Machine Label: contradiction

- Premise: Let PreOrd(C) be the category of internal preorders in an exact category C

- Hypothesis: Let PreOrd(D) be the category of internal preorders in an exact category D.
- Label: contradiction
- Machine Label: contradiction

- Premise: We show that the pair (Eq(C),ParOrd(C)) is a pretorsion theory in PreOrd(C), where Eq(C) and ParOrd(C) are the full subcategories of internal equivalence relations and of internal partial orders in C, respectively
- Hypothesis: The pair (Eq(C),ParOrd(C)) is not a pretorsion theory in PreOrd(C).
- Label: contradiction
- Machine Label: contradiction

- 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: ParOrd(C) is not a category.
- Label: contradiction
- Machine Label: contradiction

- 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 does not have stable units and does not induce an admissible categorical Galois structure.
- Label: contradiction
- Machine Label: contradiction

- 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 induced in PreOrd(Set) by the category Set of sets does not induce a monotone-light factorization system.
- Label: contradiction
- Machine Label: contradiction

- Premise: In this article the notion of virtual double category (also known as fc-multicategory) is extended as follows
- Hypothesis: The notion of virtual double category is not extended in this article.
- Label: contradiction
- Machine Label: contradiction

- 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: The theory for virtual double categories cannot be extended to augmented virtual double categories without assuming the existence of horizontal units.
- Label: contradiction
- Machine Label: contradiction

- 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 notion of "pointwise" composition of horizontal morphisms cannot be applied to augmented virtual double categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: We derive three equivalent necessary conditions for a small category to have homological dimension one, generalizing a result of Novikov
- Hypothesis: A small category with homological dimension zero satisfies the three necessary conditions mentioned above.
- Label: contradiction
- Machine Label: contradiction

- Premise: Several approaches to persistence have been attempted over time, some topological in flavor, based on the vector space-valued homology functor, others combinatorial, based on arbitrary set-valued functors
- Hypothesis: All approaches to persistence are based on the vector space-valued homology functor.
- Label: contradiction
- Machine Label: contradiction

- 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: The axioms for the generalized rank function only apply to topological persistence, not combinatorial persistence.
- Label: contradiction
- Machine Label: contradiction

- Premise: We port the interleaving and bottleneck distances to this novel framework and generalize classical equalities and inequalities
- Hypothesis: The novel framework introduces completely new distance metrics that have no relation to interleaving and bottleneck distances.
- Label: contradiction
- Machine Label: contradiction

- Premise: Unlike sets and vector spaces, in many categories the rank of an object does not identify it up to isomorphism: to preserve information about the structure of persistence modules, we define colorable ranks, persistence diagrams and prove the equality between multicolored bottleneck distance and interleaving distance in semisimple Abelian categories
- Hypothesis: Multicolored bottleneck distance is not equal to interleaving distance in semisimple Abelian categories.
- Label: contradiction
- Machine Label: contradiction

- Premise: We prove that, given any reflective subfibration L on an ∞-topos E, there exists a reflective subfibration L' on E whose local maps are the L-separated maps, that is, the maps whose diagonals are L-local.
- Hypothesis: Given any reflective subfibration L on an ∞-topos E, there exists no reflective subfibration L' on E whose local maps are the L-separated maps.
- Label: contradiction
- Machine Label: contradiction

- Premise: As a corollary, we obtain that both the equivariant Lusternik-Schnirelmann category of a group action and the invariant topological complexity are invariant under Morita equivalence
- Hypothesis: The equivariant Lusternik-Schnirelmann category and invariant topological complexity are not invariant under Morita equivalence.
- Label: contradiction
- Machine Label: contradiction

- Premise: However, recent work has shown that there is no canonical axiomatisation of a Boolean category
- Hypothesis: All categories can be axiomatized in a canonical way.
- Label: contradiction
- Machine Label: contradiction

- Premise: We give a kind of answer and explore the reasons it is unsatisfactory in general (although fine for left or right exact functors).
- Hypothesis: The answer is always satisfactory for left or right exact functors.
- Label: contradiction
- Machine Label: contradiction

- Premise: We reformulate the proof of this known result in order to obtain a stronger one that uses not all objects of B of C, but only a conveniently defined generating class S
- Hypothesis: The reformulated proof does not yield a stronger result.
- Label: contradiction
- Machine Label: contradiction