

# News on the zbMATH interface

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Our staff of developers and editors have updated and improved several important features in zbMATH. All these updates aim to provide our users a rich and modern database interconnected with other worldwide databases and services (e.g. digital libraries, Wikidata, ORCID and links to discussions in MathOverflow).

## Reviewer service and compensation

During the last few months, we have updated several components of the reviewer service and submission tool. It is now possible to check the account balance and order Springer books, as well as make donations to the EMS book programme for developing countries via the interface. From January 2018, the financial compensation per review will be increased to 3.00 EUR from the traditional amount of 2.56 EUR. When this amount is used to order Springer books, a discount of 50% is applied.

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### zbMATH Remote

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## zbMATH interface features

Search results can now be sorted using customised criteria such as publication year, document or review citation, and volume number.

Additional filters have been added. Formula search has been extended by the integration of arXiv full-texts, making more than 160 million mathematical formulas retrievable. A new interface available at MathOverflow allows users to insert a citation into any question, answer or comment, and enables linking back from zbMATH to a discussion there.

Here is an example of such a citation.

### Codimension of the non-locally free locus

Let  $X$  be a Noetherian, integral scheme. Let  $\mathcal{F}$  be a torsion free sheaf on  $X$  and let  $U \subseteq X$  be the open subscheme where  $\mathcal{F}$  is locally free.

asked 1 month ago  
viewed 122 times  
active 1 month ago

Q. Is it true that  $\text{codim}_X(X \setminus U) \geq 2$ ?

ag.algebraic-geometry | ac.commutative-algebra

share cite improve this question

edited Mar 12 at 9:29  
answered Mar 12 at 8:43

Francisco Polizzi 44.4k · 3 · 118 · 189  
Ron 290 · 9

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1 Answer

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5  
The answer is yes, assuming  $X$  to be normal.  
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edited Mar 12 at 9:28  
answered Mar 12 at 9:20

Francisco Polizzi 44.4k · 3 · 118 · 189

add a comment

Your Answer

Related

- Does a locally free sheaf over a product pushforward to a locally free sheaf?
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- Does vanishing of cohomology of locally free sheaves imply affineness of scheme
- Pushforward of locally free sheaves under open immersion
- Locally free sheaves and flat families of projective schemes
- Etale cohomology and biological invariance
- determinant of a coherent sheaf, locally free on a big open set

question feed

## MSC2020

zbMATH and Mathematical Reviews have worked together to revise and improve the Mathematics Subject Classification (MSC) schema, which is used by these reviewing services and publishers to categorise items in mathematics literature. Comments and suggestions can be submitted through the website <http://msc2020.org/>.

## zbMATH Atom Feed

zbMATH now offers an additional way of keeping researchers up-to-date with mathematical developments in their areas of interest via an atom feed. Every two weeks, researchers receive an update of recently included items and reviews in electronic form.

This feed is an enhanced version of the classic web feed format RSS and is supported by all current news readers.

If you are interested in a specific author, you can access this news feed through the author ID (displayed at the top of each author profile, e.g. <https://zbmath.org/atom/ai/leibniz.gottfried-wilhelm>). You can also access the atom feed via MSC code, which can be defined as complex and specific as you wish (e.g. <https://zbmath.org/atom/cc/81,17B,57R56> for quantum theory, Lie algebras and Lie superalgebras, and topological quantum field theories).

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### Recent zbMATH articles in MSC 17B, 57R56, 81

Modeling correlated information change: from conditional beliefs to quantum conditional beliefs.  
April 13, 2018, 8:32 PM

Summary: In this paper, we propose a unified logical framework for representing and analyzing various forms of correlated information change. Our main thesis is that "logical dynamics" (in the sense of J. van Benthem) (Exploring logical dynamics, Stanford, CA: CSLI Publications (1995; Zbl 0873-0300)), logical dynamics of information and interaction, Cambridge: Cambridge University Press (2011; Zbl 1231-0002)), and in particular symmetric, dynamic methods, as developed in [The authors, Electron. Notes Theor. Comput. Sci. 183, 3–21 (2008); Zbl 1482-0040]; Stud. Log. 86, 2, 187–211 (2008); Zbl 1144-8342]; Texts in logic and games, Amsterdam: Amsterdam University Press, 9–58 (2008)], play a central role in understanding and modeling a wide range of apparently very different information-gathering phenomena which do have one specific feature in common: namely the very act of learning new information may directly change the reality that is being learned. On the one hand, we focus on the way in which an introspective agent changes her beliefs when learning new higher-order information, i.e., information that may refer to her own beliefs. On the other hand, we analyze situations in which an observer learns about a phenomenon by performing observations that may perturb the very phenomenon under study, as in the case of quantum measurement, or observations in social sciences, psychology and medicine. Our formal techniques are based on ideas from dynamic logic and on the modeling of "dynamic conditionals": We offer a semantics based on "test frames", i.e., Kripke frames labeled by propositional formulae which yields a unified setting for the two types of correlated information change under study. We show how the framework can be used to analyze the static and epistemic-informational aspects of quantum measurements and to compare them with other types of observation, testing, belief revision, counterfactual conditionals, etc.

Practically good quantum state transfer in symmetric spin networks via magnetic fields.  
April 13, 2018, 8:32 PM

Summary: We study pretty good single-excitation quantum state transfer (i.e., state transfer that becomes arbitrarily close to perfect) between particles in symmetric spin networks, in the presence of an energy potential induced by a magnetic field. In particular, we show that if a network admits an evolution that fixes at least one node or at least one link, then there exists a choice of potential on the nodes of the network for which we get pretty good state transfer between symmetric pairs of nodes. We show further that in many cases, the potential can be chosen so that it is only nonzero at the nodes between which we want pretty good state transfer. As a special case of this, we show that such a potential can be chosen on the endpoints of a spin chain to induce pretty good state transfer in chains of any length. This is in contrast to the result of the authors' Perfect state transfer on graphs with a potential, Quantum Inf. Comput. 17, No. 3, 303–327 (2017), [arXiv:1611.02093], in which the authors show that there cannot be perfect state transfer in chains of length 4 or more, no matter what potential is chosen.

Equivalent bifurcations in a non-local model of ferromagnetic materials.  
April 11, 2018, 8:32 PM

The article refers to a non-local evolution equation which arises as a continuum limit of the one-dimensional spin systems with Glauber dynamics and Kac potential, the unknown function  $S(x,t)$  representing a magnetization density. The equation is restricted to a certain subclass of periodic functions. The aim of the work here is to investigate the existence of solutions bifurcating from the trivial solution of the model. The local bifurcation result is obtained by applying the well-known equivariant branching theorem. Further, one proves that under some special assumptions, the curve of equilibrium bifurcating from the trivial curve can be globally continued. Global bifurcation with Kac potential models have been intensely studied, for instance by J. K. De Haan et al. (Nonlinearity 7, No. 3, 613–696 (1994); Zbl 0797-60081); Reviewer: Claudia Simionescu-Badea (Tiriu)

## Tutorial videos

A series of videos have been produced in order to help users exploit all of zbMATH's potential. There are examples with complex queries, tricks and hints. New videos will be added to cater for newly developed features in zbMATH. You can watch these videos at the very bottom of the "About" page [https://zbmath.org/about#id\\_5](https://zbmath.org/about#id_5).



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#### Scientific and editorial boards

EMS Committees  
Editorial board  
International editorial organisations

#### History of zbMATH

Foundation and early years  
The years 1933–1945  
A new beginning in 1947  
Zentralblatt – a German-German cooperation  
Transformation into a reference database

#### Facts & Figures

#### Tutorial Videos

**Classification:** 3,336,151 items classified by MSC 2010

**Software:** 18,285 software packages indexed for software search referenced by 148,918 documents (see also [swmath.org](https://swmath.org))

**Formulae:** 160,809,572 formulae indexed for formula search

**Reviewers:** 7,004 active reviewers  
1,052,761 reviews since 1868

**Full Text Links:** 2,606,833 full text links for 2,407,219 documents, including

- 2,187,693 as DOI
- 164,535 to arXiv
- 170,315 to EUDML, 23,403 to EMS, 18,255 to Project Euclid
- 25,427 to Numdam, 8,606 to Gallica, 8,599 to Crelle

**References:** 26,641,152 references including 14,596,522 references matched within 1,241,110 zbMATH items listed for 1,319,770 documents from 1,443 journals & series

### Tutorial Videos

Please choose a video from the list above.