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## TecLearn Technical Literature Training File (TECL)

This database contains references with abstracts, keywords and descriptors on technology and management.

It provides information from German and international scientific and practical technical literature like journals, conference proceedings, reports, dissertations, as well as non-conventional literature. TEMA® comprises the databases DOMA® Mechanical and Plant Engineering, ZDE Electrical Engineering, Electronics and Information Technology, ENTEC Energy Technology, WEMA® Materials, TOGA® Textile Technology, MEDITEC Medical Engineering, BERG Mining and BEFO Management and Organisation.

The abstracts are in German and/or English. The search may be conducted with German or English terms.

### Scope

- **Mechanical and Plant Engineering**  
Machine tools, chip-type machining processes, forming processes, computer-aided technologies (Cax), positive displacement machines, turbomachinery, combustion engines, automotive engineering, mechanical transmissions, machine components and accessories, tribology, pneumatics, hydraulics, materials handling technology, robots, mechatronics, heating, ventilation and air conditioning, refrigeration, printing machines, processing machines
- **Electrical Engineering, Electronics and Information Technology**  
Data processing, communication engineering, electronics and microelectronics, measurement, testing, control, regulation and automation
- **Energy Technology**  
Energy sources, energy conversion, energy and power plant engineering, energy storage, energy saving, energy transportation, electricity industry
- **Materials**  
Steel and iron alloys, non-ferrous metals, special metals, non-metallic inorganic materials, polymers, composite materials, derived timber products, construction materials, biomaterials, coatings
- **Textile Technology**  
Manufacturing of textiles, clothing industry, textile chemistry, fibers, fiber production, functional textiles, technical textiles, clothing
- **Medical Engineering**  
Biomedical imaging, prostheses and rehabilitation engineering, optometry, dental technology, occupational health, clinical engineering
- **Mining**  
Mining, tunnelling, mine ventilation, ocean mining, mine-surveying, rock mechanics, soil mechanics, damage due to mining, exploration, oil drilling, natural gas drilling, land reclamation, contaminated sites, soil decontamination, water purification
- **Management and organisation**  
Business management, legislation, finance, markets, economics, research and development

## Language

German, English

## File Data

Number of records: 100,159

Years covered: 1985-2015 (Test file)

## Producer

WTI-Frankfurt-digital gmbH

Ferdinand-Happ-Str. 32

D-60314 Frankfurt/Main

Phone: (069) 4308-111

Fax.: (069) 4308-200

Internet: <http://www.wti-frankfurt.de>

Responsible for database input:

Isabel Pecher

Phone: (069) 4308-270

## Sample Document

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### Database

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### Title

Mechanomagnetic spectroscopy of ferromagnetic shape memory alloys.

### Descriptors

Anelastizität; elastische Welle; ferromagnetischer Stoff; Ferromagnetismus; Formgedächtniseffekt; Formgedächtnislegierung; hartmagnetischer Werkstoff; innere Reibung; magnetische Domäne; magnetisches Feld; Magnetisierung; Magnetoelastizität; martensitische Phase; martensitische Umwandlung; nanokristalline Legierung; polykristalliner Werkstoff; Ultraschallprüfung

### Free Terms

unelastische Eigenschaft; magnetoelastische Kopplung; mechanomagnetische Spektroskopie; ferromagnetische Formgedächtnislegierung

### Abstract

We have used a recently designed mechanomagnetic spectroscopy technique to study the inverse magnetoelastic effect (stress-induced magnetization) in ferromagnetic materials simultaneously with their elastic and anelastic properties. Special attention has been paid to ferromagnetic shape memory alloys. Application of mechanomagnetic spectroscopy technique allows one to study the stress-induced motion of elastic (by means of the anelasticity measurements) and magnetic domain boundaries (through the detection of the stress-induced magnetization). The experimental technique is based on the piezoelectric ultrasonic composite

oscillator technique with an additional magnetic channel, enabling to register the induction, produced by the strain of a ferromagnetic sample, down to  $10^{-10}$  T. Examples of application of this new technique are given, which include observation of a temperature-magnetic field domain wherein magnetoelastic coupling demonstrates variations of sign and analysis of magnetic domain wall dynamics in polycrystalline ferromagnetic martensites.

**Author**

Kustov, S.; Corro, M.L.; Cesari, E.

**Institution**

Universidad de las Islas Baleares, Palma de Mallorca, ES

**Conference Details**

ICIFMS, 15, International Conference on Internal Friction and Mechanical Spectroscopy, 15th, Perugia, IT, 2008-07-20 - 2008-07-25

publiziert als: ICIFMS 15, 15th International Conference on Internal Friction and Mechanical Spectroscopy, Perugia, IT, Jul 20-25, 2008

**Source**

ICIFMS, International Conference on Internal Friction and Mechanical Spectroscopy, 15, in: Materials Science and Engineering, Part A (Structural Materials: Properties, Microstructure and Processing) \* Band 521-522 (2009) Seite 194-200 (7 Seiten, 35 Quellen), Paper-Nr.

PII:S0921509309002767

**Serial Codes**

ISSN: 0884-8173

ISSN (electronic): 1098-111x

CODEN: IJISED

Zeitschriftencode: 7939 = International Journal of Intelligent Systems

**Classification**

3KEM Nonferrous metals/alloys/casting materials

3KXM Mechanical properties of materials

3KXE Electrical/magnetic properties of materials

3KWG Crystal structure, material structure/textures

**Language**

EN English

**Availability**

<http://dx.doi.org/10.1016/j.msea.2008.09.098>

**Document Number**

20090905457

**Treatment Codes**

A Application

G General Review

**Publication Type**

J Journal  
CA Conference Paper

**Publication Form**

ED Digital Object Identifier (DOI)

**Publication Year**

2009

**Update**

2009-09-28

**Database Fields**      [TOP](#)

Title	TI
Author	AU
Institution	CO
Thesaurus	TH
Descriptors	DE
Classification	CC
Source	SO
Serial Codes	SC
Conference Details	CF
Language	LG
Publication Type	PT
Publication Form	PF
Abstract	TX
Material Terms	MT
Material Index	MI
Chemical Index	CI
Free Terms	FT
Treatment Codes	TC
Fulltext	AV
Document Number	NO
Publication Year	YR
Update	UP
Country of Institution	COC
Conference Series No = Konferenzseriennummer	CSN
Country of Conference	CFC
WTI Journal Code = WTI-Zeitschriftencode	FJC

## Search Tips [TOP](#)

### Thesaurus

The search with descriptors from the "Thesaurus Engineering and Management" in the search field "General Search" automatically includes any available German terms and narrower terms, as well as German and English synonyms. With the "Thesaurus Search" (see grey menu bar) it is possible to preselect search terms for a more efficient search in the database.

*Attention: The Thesaurus Search Engine is available in every single database. But as not all general data bases have a Thesaurus search function available, we are not able to provide this option when **OneSearch** is used for interdisciplinary data base research.*

### Search in specific fields

The "General Search" includes the following fields: Title, Abstract, Author, Institution, Source, Serial Codes (ISSN and ISBN), Conference Details, Thesaurus, Free Terms and Publication Year. In all other cases the respective field has to be selected. In the "Expert Search" every field can be selected from the dropdown-list, or you can directly enter the field tag (in capital letters, #tags see above) followed by colon and the search term, e.g. the classification CC:3BFB. The direct search with field tag is possible in all search types (Quick Search, Advanced Search and Expert Search).

### Field Author (AU)

In the database TEMA and its parts (e.g. DOMA, WEMA, ZDE, BEFO etc.) it is sufficient to enter the first letters of first or last name of an author into the Author Field (in "Advanced Search" or "Expert Search"). You will then be given a list of matching entries, from which you can select the appropriate name.

Alternatively names may be searched with truncation (\*), e.g. `hoyer*` returns `hoyer-ina`, `hoyer-n-j`, `hoyer-norbert`, `hoyerberg`, `hoyermann` etc. For a more precise search, please truncate at the initial of the first name, e.g. `"hoyer n*"` returns only authors with last name Hoyer, whose first names start with "N", as Hoyer, Niklas or Hoyer, Norbert. or Hoyer, N. Search names within quotation marks, e.g. `"hoyer norbert" OR "hoyer n*"` (last name - first name) and always use the Author Field. This way of searching is possible in all databases. Truncation is recommended, since first names are often abbreviated in the literature quoted.

### Field Institution (CO)

This field supplies the author affiliation. Wherever possible, these institutions have been standardised and can be used for refining the search result. Changes in company names should be taken into account (e.g. DaimlerChrysler -> Daimler). The country of the institution is searchable with the tag COC (in capital letters) and the two-character ISO-Country-Code, e.g. `COC:cn` finds institutions from China.

### Classification Field (CC)

In "Advanced Search" and "Expert Search" the subjects can be selected from a list (see link below search fields) giving the top level of the WTI-classification. Several selected items are combined with the operator OR. The selection of an item also includes the more precise subclasses into the search. If you enter the code directly, e.g. `CC:3BFB`, only the specified class is found, unless you truncate the class: `CC:BF*` includes the subclasses.

In the "General Search" the field tag CC has to be used. Instead you can select the field from the dropdown-list in the "Expert Search". For a list of the codes see [WTI Classification](#). Additionally you can refine your search result after a search in other search fields with the link "Classification" on the right hand side of the titlelist. Several selected subjects are combined with the operator AND, that is: all must apply. This list is sortable either by number of hits or alphabetically by codes.

### **Field Source (SO)**

Publication titles may be searched as phrases (strings), e.g. "laser in medicine and surgery".

### **Field Serial Codes (SC)**

ISSN and ISBN are searched with hyphens without text, e.g. 978-3-18-092009-2.  
The WTI-Journal-Code is searchable e.g. as FJC:770 (see [WTI Journal List](#) [in German]).

### **Field Conference Details (CF)**

Since 1993 the conference details have been standardised. Since then conference series numbers have been assigned to conferences regularly scanned. These numbers may be searched e.g. as CSN:14 or CSN:12349 (Numbers see [Conferences](#) [in German]). The Conference Series Numbers are to be searched without the leading zeros. CSN has to be entered in capital letters. The conference number is displayed in field Serial Codes. Conferences published before 1993 may be searched as usual with phrases or with operators.

### **Publication Form (PF)**

This field helps identify electronic publications. It is available since 1991. Search with the codes: EC for CD-ROM/DVD, ED for records with link (DOI, Digital Object Identifier) to the publisher, where the publication is available, or EL for online documents, that are often for free in the internet. Search e.g. PF:ed  
With PF:e\* all electronic publications are found.  
Instead you can refine your search result with **Publication Type** "Electronic Publication" in the right column of the Results list, which includes all of the codes above.

### **Field Treatment Codes (TC)**

This field is available since 1993, which means that selecting a code from this list excludes older records from the search result.

### **Field Document Number (NO)**

The document number is a permanent identifier for a specific record. Search e.g. NO:20090101598.

### **INSPEC-Records**

Until 2011 WTI has included documents from the database INSPEC in TEMA. Should you search INSPEC as well as TEMA or parts thereof, you can exclude doubles in TEMA by combining your search result with NOT PROD:insp (PROD in capital letters).

## **Update**

February 2019