

TIB

GERMAN NATIONAL LIBRARY OF
SCIENCE AND TECHNOLOGY


Move beyond text – How TIB manages the digital assets researchers generate

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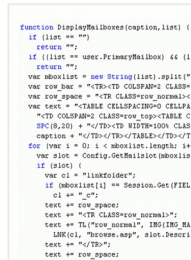


German National Library of Science and Technology (TIB)

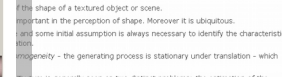
- Specialized Library for Architecture, Chemistry, Computer Science, Mathematics, Physics, Engineering Technology
 - Financed by Federal Government and all Federal States
 - Member of Leibniz Association
 - Global supplier for scientific and technical information
- 
- Long-term preservation of scientific media
 - DOI service for referencing digital objects
 - Research and development with a focus on visual search, data visualisation, the Future Internet and the Semantic Web
 - Competence Centre for non-textual material



- New policies for publishing results & underlying data
- Re-usability of publicly funded research



3D objects



scientific films

Move beyond text - Consequences for TIB

Establish a competence centre for non-textual materials in order to improve the access and the use of scientific videos, 3D-Objects and research data.

Goals

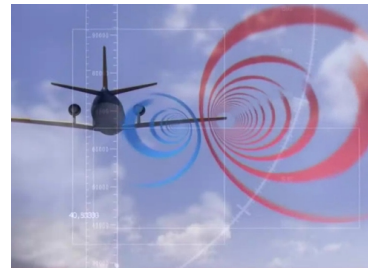
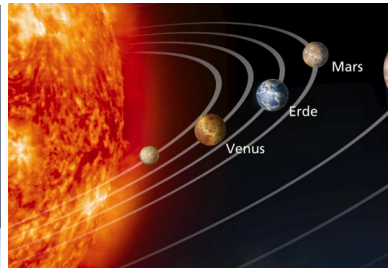
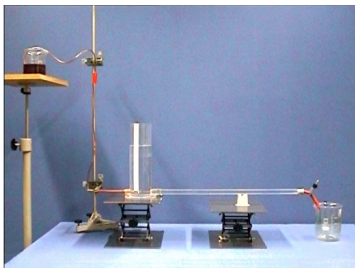
- Systematically collect non-textual materials from science and technology
- Define, integrate and establish technical infrastructure
- Define and establish workflows for indexing, cataloguing, digital preservation, DOI registration, Licencing
- Develop innovative media-specific portals enabled by e.g. an automated video analysis with scene, speech, text and image recognition.
- Linking non-textual materials to other research information such as full texts, research data and software
- Engage in communities, provide support and advice to media providers

Example: TIB's service for scientific videos

Scientific videos are a valuable source

- to illustrate and share knowledge concerning findings, methodologies or procedures within the scientific community
- to make e.g. lab experiments transparent and reproducible
- to visualize temporal components by e.g. using zooming or stretching techniques etc.

If scientific videos are not indexed, preserved and made accessible in the best possible way, they remain hidden!



TIB's service for scientific videos

A TIB Service since May 2014



<http://av.getinfo.de/>

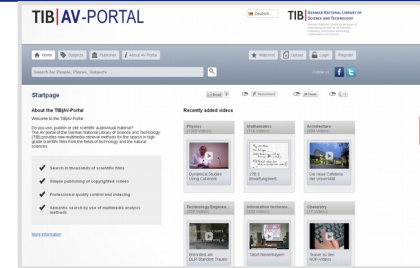
TIB|AV-Portal provides free access to high grade videos from Architecture, Chemistry, Computer Science, Mathematics, Physics and Engineering Technology

TIB's service for scientific videos

- Hosting
- Indexing according to international standards
- Display in TIB|AV-Portal (or linkage to the partner's website)
- Metadata enrichment and semantic search based on text-, speech- and image recognition
- Synchronous scrolling transcripts
- Crosslingual retrieval (english / german)
- DOI registry (plus MFID for videosegments)
- Digital preservation
- Distribution of metadata (XML/RDF) to other databases and catalogues

Easy upload > see Metadata Schema and Licences

<https://av.getinfo.de/about>



av.getinfo.de

Technology: Automatic Video Analysis



Service: Improved search results

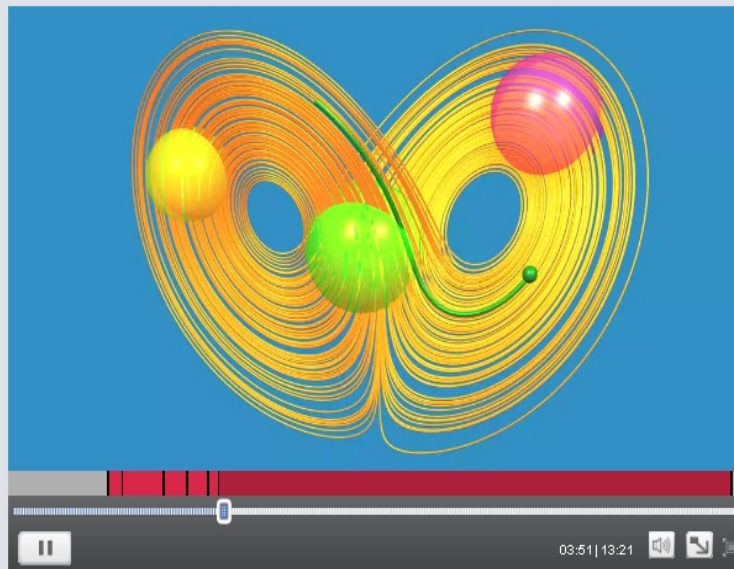
TIB | AV-PORTAL

Deutsch

TIB | GERMAN NATIONAL LIBRARY OF
SCIENCE AND TECHNOLOGY

German National Library for all areas of
engineering as well as architecture.

Chaos | Chapter 8 : Statistics - Lorenz' mill



■ = Results found

Citation of Segment <http://dx.doi.org/10.5446/14663#t=03:50,13:02>

Embed Code

```
<iframe width="560" height="315" src="//av.getinfo.de/player/14663" frameborder="0" allowfullscreen></iframe>
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Automated Media Analysis (i) BETA

Recognized Entities Full Audio-Transcript

Search ...

☒ Speech ☒ Text in the video ☒ Image content

Initial value problem Trajectory

03:38

Computer animation Order (biology) Trajectory

03:49

Resultant Gravitation Distribution (mathematics)

Sequence Physicist Process (computing) Total S.A.

Multiplication sign Position operator

Different (Kate Ryan album) Computer animation Water vapor

Number Initial value problem Presentation of a group

Trajectory Term (mathematics) Hypothesis

Network topology Trail Prediction Average

Identical particles Chaos (cosmogony)

Limit (category theory) Drop (liquid) Measurement

Parameter (computer programming) Statistics 2 (number)

Product (category theory) Frequency Event horizon

Aerodynamics Degree (graph theory) Set (mathematics)

Service: Media Fragment Identifier - MFID

Example: Search „**trajectory**“

- Very precise **citation of videos:**

resolver **DOI** **MFID**

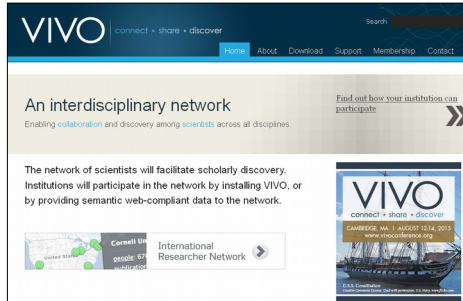
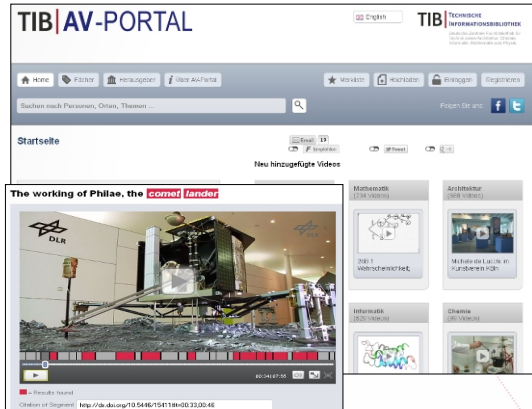
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TIB | AV-PORTAL

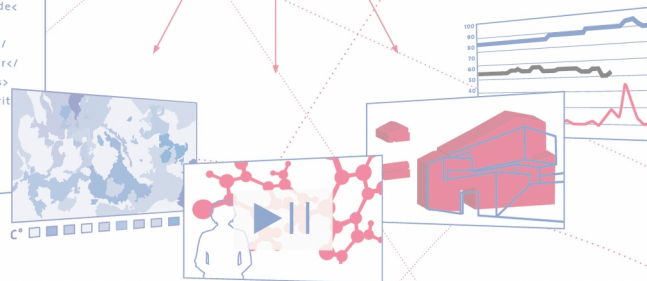
Chaos | Chapter 8 : Statistics - Lorenz' mill

The screenshot displays the TIB AV-Portal interface. The main video player shows a Lorenz attractor visualization with three colored spheres (yellow, green, red) moving along the trajectory. The video player includes a progress bar and a search bar. The sidebar on the right, titled 'Automated Media Analysis (i) BETA', shows search results for the term 'Trajectory'. The results are organized into a grid of categories, including 'Initial value problem', 'Trajectory', 'Computer animation', 'Order (biology)', 'Trajectory', 'Resultant', 'Gravitation', 'Distribution (mathematics)', 'Sequence', 'Physicist', 'Process (computing)', 'Total S.A.', 'Multiplication sign', 'Position operator', 'Different (Kate Ryan album)', 'Computer animation', 'Water vapor', 'Number', 'Initial value problem', 'Presentation of a group', 'Trajectory', 'Term (mathematics)', 'Hypothesis', 'Network topology', 'Trail', 'Prediction', 'Average', 'Identical particles', 'Chaos (cosmology)', 'Link (category theory)', 'Drop (liquid)', 'Measurement', 'Parameter (computer programming)', 'Statistics', '2 (number)', 'Product (category theory)', 'Frequency', 'Event horizon', 'Aerodynamics', 'Degree (graph theory)', and 'Set (mathematics)'.

How TIB manages the digital assets researchers generate



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Thank you for your attention!
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