



# SAMURI Project: NIMS eSciDoc Digital Library

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National Institute for Materials Science (物質材料研究機構)

## Background 1 –NIMS, who we are

1. Government-funded research laboratory
2. 5 campus, Japan
3. 2 satellites, Seattle and Cambridge
4. Researchers 500 / 1500 (non-Japanese>20%)
5. Budget ¥22 billion (Library 0.8%)  
Librarian 1.5, Information services 2, .....
6. 33 research labs and centers
7. 4 joint graduate university program
8. 4 research collaboration centers with industrials



## Background 3 – a digital library towards e-Science

- 2006 **NIMS digital library project**
- 2007 Development of ground design, establishment of concept, policy
- 2008- A collaboration partnership with Max Planck Digital Library
  - **NIMS eSciDoc** (PubMan, FACES)
- 2009- NIMS researchers database project, eSciDoc community in Japan
  - **Materials science collections**
  - **eSciDoc.JP** – NIHON Univ., Natl. Inst. Radiological Science
- 2010-
  - **SAMURAI** – a directory of researchers profiles and digital archives

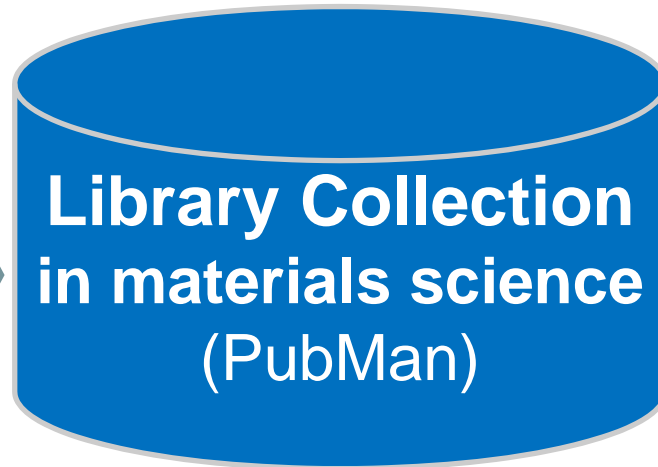
# NIMS eSciDoc

- Mission
  1. digital library
  2. self-archive and self-promotion system
  3. institutional repository
- Development
  1. 2008 - 2010
  2. With a collaboration with the Max Planck Digital Library

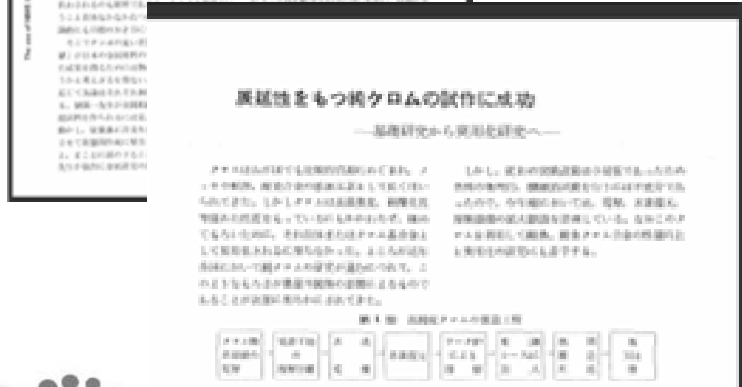
# NIMS eSciDoc

- Requirements
  1. flexibility of xml schema
    - depending on research fields and data sets
  2. easily manageable interface
  3. secured and sustainable repository server
  4. visualized access logs
  5. interlinking among research outputs (items in eSciDoc)
    - published articles  $\Leftrightarrow$  revisions  $\Leftrightarrow$  translated versions  $\Leftrightarrow$  research reports  $\Leftrightarrow$  recipes
    - image data  $\Leftrightarrow$  references

# NIMS eSciDoc Digital Library – Project 1 (2008.9-2010.12)

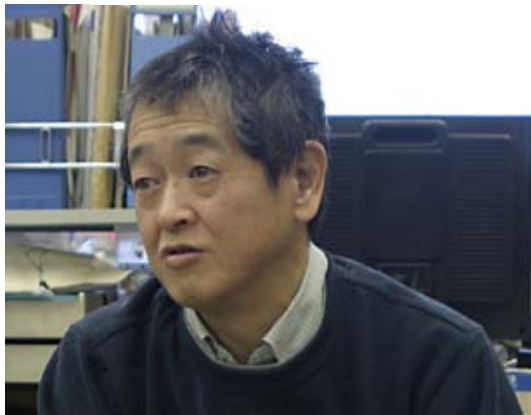


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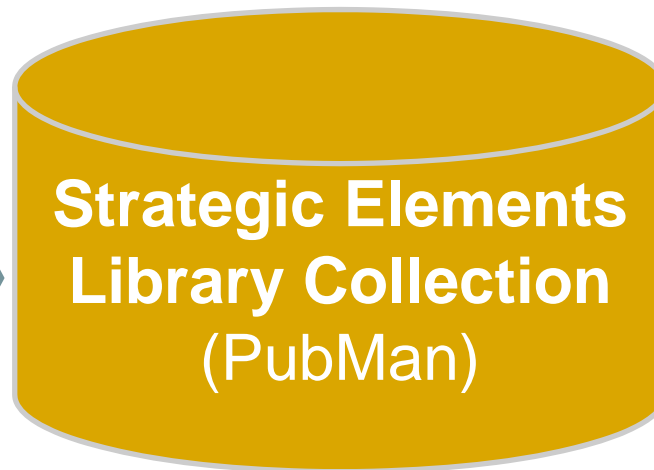
Digitization of:  
books, research reports (since 1957),  
selected monographs  
**> 1030 items**

# NIMS eSciDoc Digital Library – Project 2 (2010.3-2011.2)



原田幸明

Kohmei HALADA



OA

Collection by Dr. Komei Halada, an environmental scientist, NIMS.  
White papers, research papers, governmental reports and other references

> 1,000 items



# NIMS eSciDoc Digital Library – Project 3 (2010. 4-2011.3)

Collection of NIMS research papers, patents, image data  
> 5,000 items

By librarians

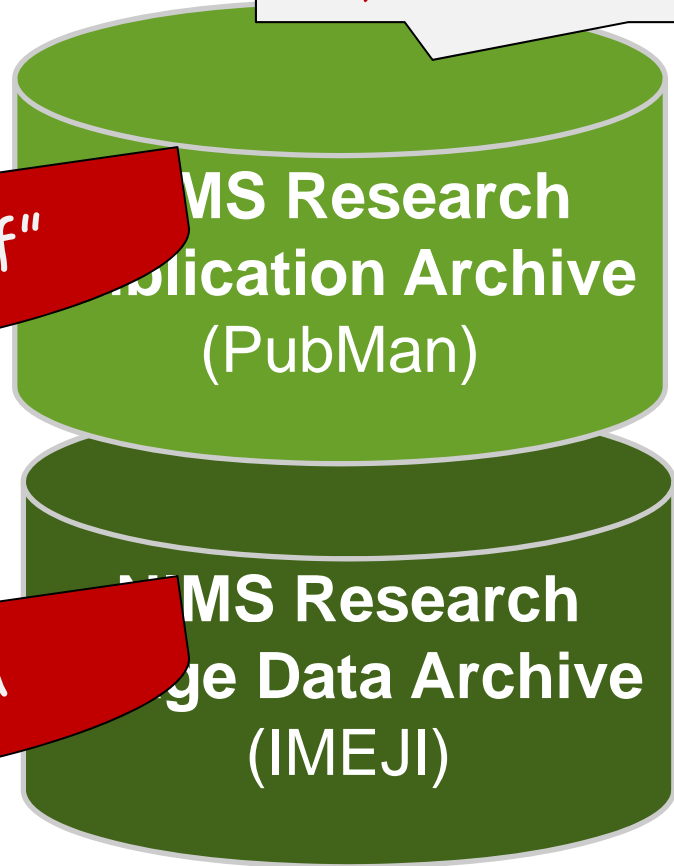


"on-behalf-of"

By researchers and NIMS staff



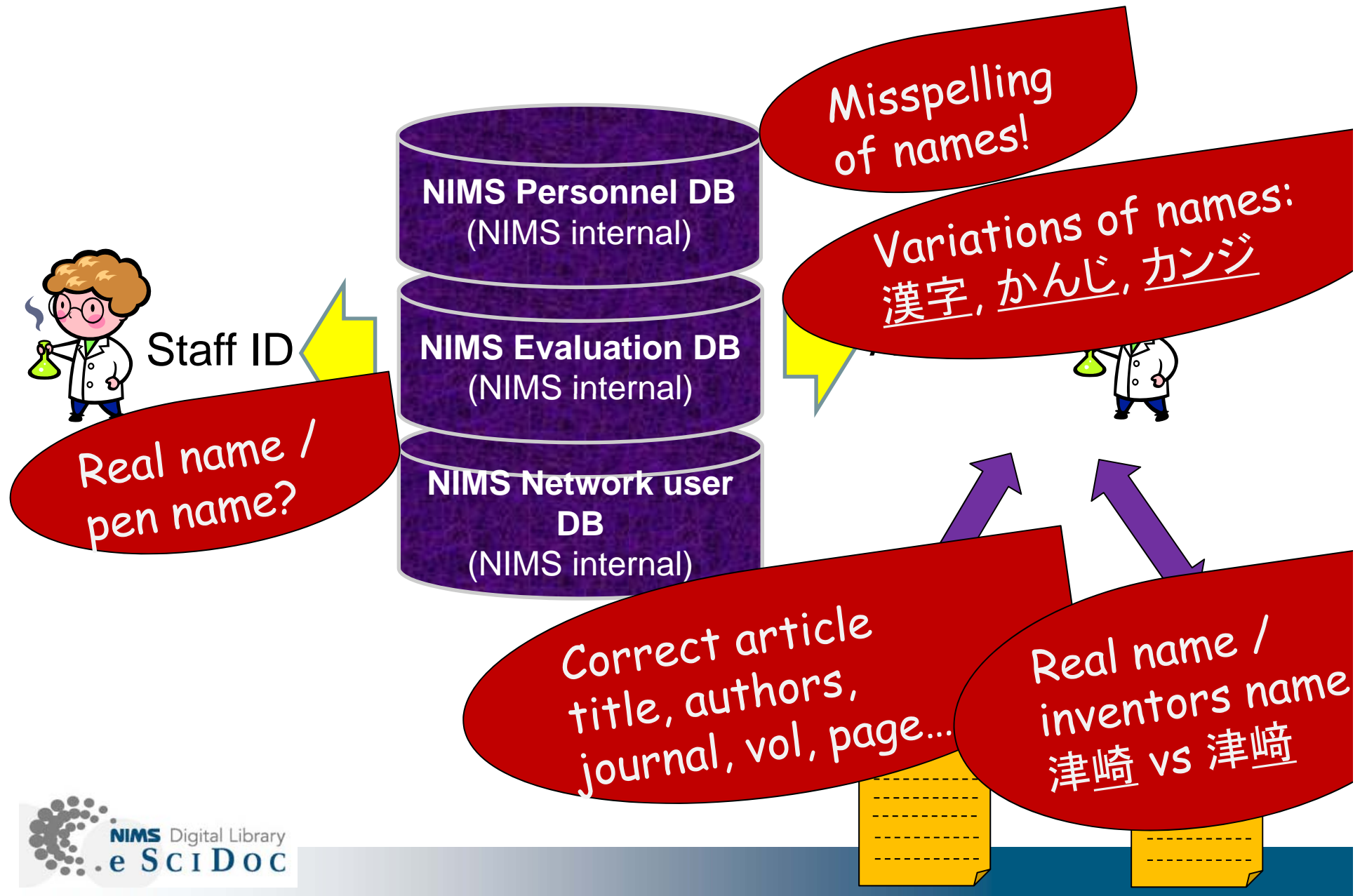
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OA/non-OA



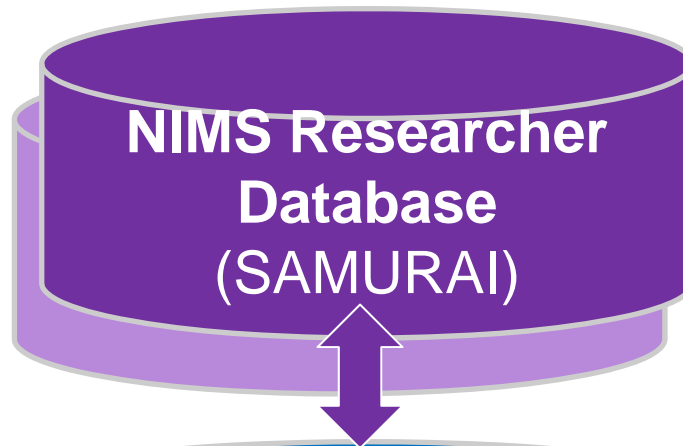
# NIMS eSciDoc Digital Library – Project SAMURAI (2009.9-2010.12)



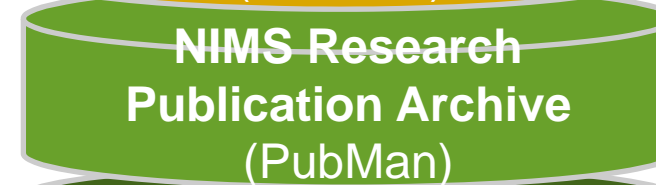
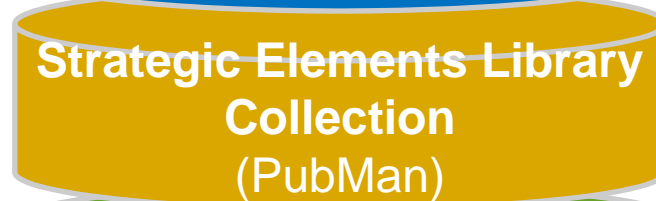
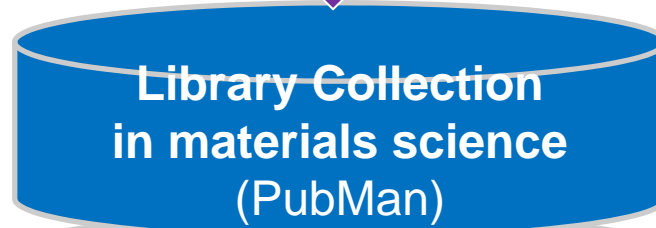
# NIMS eSciDoc Digital Library – Project SAMURAI (2009.9-2010.12)



- check the integrated information
- edit, export the data
- add / update research theme




search by name, keywords, subjects



export to derivative services, such as portals, JST(ReaD), ResearcherID.com

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### NIMS Researchers Database SAMURAI

**Search (under construction)**  
Search by keywords (name, research field, etc.)

**Browse researchers directory**  
Alphabetical listings of all NIMS researchers.

**Browse research units**  
You can browse research units.

**Search by publication (under construction)**  
You can browse and search researchers via research results, i.e. journal articles, proceedings, patents and so on.

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G-I | Researchers directory | NIMS – Mozilla Firefox

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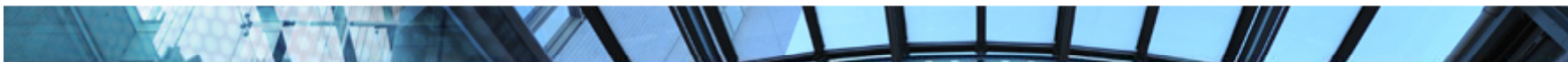
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- Browse research units
- Search by publication (under construction)

**G-I | Researchers directory**

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Name	Research unit
<b>G</b>	
 <a href="#">GIMZEWSKI, James</a>	<a href="#">International Center for Materials Nanoarchitectonics(MANA)</a>
 <a href="#">GOLBERG, Dmitri</a>	<a href="#">International Center for Materials Nanoarchitectonics(MANA)</a>
 <a href="#">GOTO, Atsushi</a>	<a href="#">Advanced Nano Characterization Center High Field NMR Group</a>
 <a href="#">GOTO, Masahiro</a>	<a href="#">Advanced Photovoltaics Center</a>



**Researchers** →

- Search by keywords (under construction)
- [Browse researcher directory](#)
- [Browse research units](#)
- Search by publication (under construction)

For NIMS researchers: You can edit your own profile on [NIMS researcher directory system](#).

**Profile**

**TRAVERSA, Enrico**

MANA Principal Investigator, International Center for Materials Nanoarchitectonics(MANA), National Institute for Materials Science  
 Email: TRAVERSA.Enrico@nims.go.jp  
 Phone: +81-29-851-3354  
 1-1 Namiki, Tsukuba, Ibaraki, 305-0044 JAPAN [\[Location\]](#)



Affiliation	Sub(1)	Group Leader, Nano Green Area - Fuel Cell Nano-Materials Group, MANA
Homepage	<a href="http://www.nims.go.jp/mana/members/principal_investigator/e_traversa/index.html">http://www.nims.go.jp/mana/members/principal_investigator/e_traversa/index.html</a>	

**Publications**

NIMS affiliated publications since 2004.

Research papers	<ul style="list-style-type: none"> <li>• E. Magnone, Miyayama, E. Traversa : "Structural properties and electrochemical characteristics of Ba<sub>0.5</sub>Sr<sub>0.5</sub>Co<sub>1-x</sub>FexO<sub>3-d</sub> phases in different atmospheres" J. Electrochem. Soc. <b>159</b>[9] (2009) B1059-B1066</li> <li>• J. S. Ahn, D. Pergolesi, M. A. Camaratta, H. Yoon, B. W. Lee, K. T. Lee, D. W. Jung, E. Traversa and E. D. Wachsman : "High-performance bilayered electrolyte intermediate temperature solid oxide fuel cells" Electrochem. Commun. <b>11</b>[7] (2009) 1504-1507 DOI:10.1016/j.elsecom.2009.05.041</li> </ul>
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研究者



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プロフィール

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電話: 029-860-4511

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<http://www.nims.go.jp/cmssc/staff/kobayak/BN/bne.html> 筆者の研究対象であるBN関連(AIN,SiCを含む)ページ

<http://www.nims.go.jp/cmssc/staff/kobayak/INFO/metal.html> 筆者が雑誌「金属」に2009年10月~2010年9月に連載した記事の支援ページ

研究分野

研究概要

2010年(度)は、**BN, SiC, AIN**ポリタイプ構造の電子状態(電子構造)と安定構造を**第一原理 分子動力学**手法を使って求めた。特に、BNに関しては、**30H-BN**という比較的大きな構造を計算した。詳細は、本ページでも紹介している、BNのウェブ [ページ](#) を参照して欲し

## Research paper list (15 records)

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1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	S. Komatsu : "Photoi 114[31]
2	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	K. Kobayashi DOI:10.1143/JPSJ.78.044706
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	小林一昭
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6	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	K. Kobayashi DOI:10.1143/JPSJ.77.084703
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	小林一昭
8	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	K. Kobayashi 104707
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	K. Kobayashi
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	K. Kobayashi 47[11]
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	K. Kobayashi DOI:10.1143/JPSJ.76.104707

### Publications

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#### Research papers

1. K Kobayashi and S. Komatsu : "First-Principles Study of 10H-BN and 10H-AIN" J. Phys. Soc. Jpn **78**[4] (2009) 044706  
[DOI:10.1143/JPSJ.78.044706](#)
2. K Kobayashi and S. Komatsu : "First-Principles Study of BN SiC and AIN Polytypes" J. Phys. Soc. Jpn **77**[8] (2008) 084703  
[DOI:10.1143/JPSJ.77.084703](#)
3. K Kobayashi, K Watanabe and T. Taniguchi : "First-Principles Study of Various Hexagonal BN Phases" J. Phys. Soc. Jpn **76**[10] (2007) 104707  
[DOI:10.1143/JPSJ.76.104707](#)

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#### Books

No record.

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#### Conferences

1. K Kobayashi : "First-principles study of C6E2" 第17回国際超電導シンポジウム (ISS2004) Physica C (2005) 374-380
2. K Kobayashi, M Arai, K Takemura : "First-principles study of Hg under high pressure" 第15回日本MRS学術シンポジウム Transactions of the Materials Research Society of Japan **30**[3] (2005) 893-896
3. K Takemura, M Arai, K Kobayashi, T. Sasaki : "Bulk modulus of Os by experiments and first-principles calculations" AIRAPT-20 高圧の科学と技術国際会議 Joint 20th AIRAPT - 43th EHPRG (2005) 1-6

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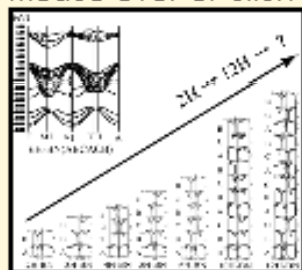
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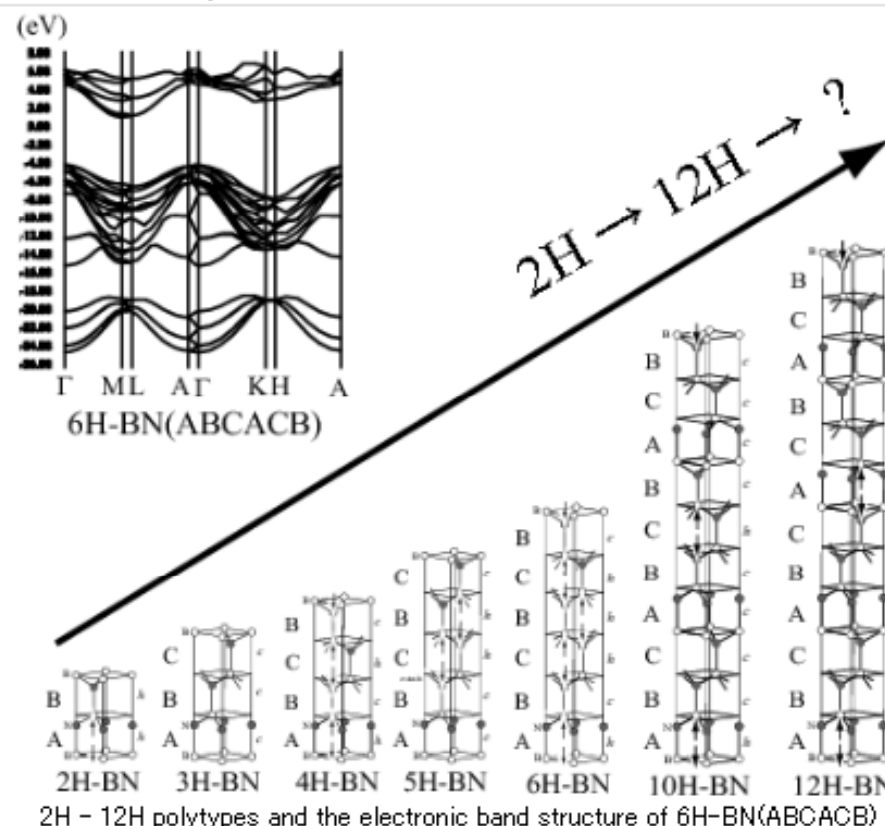
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### Research fields

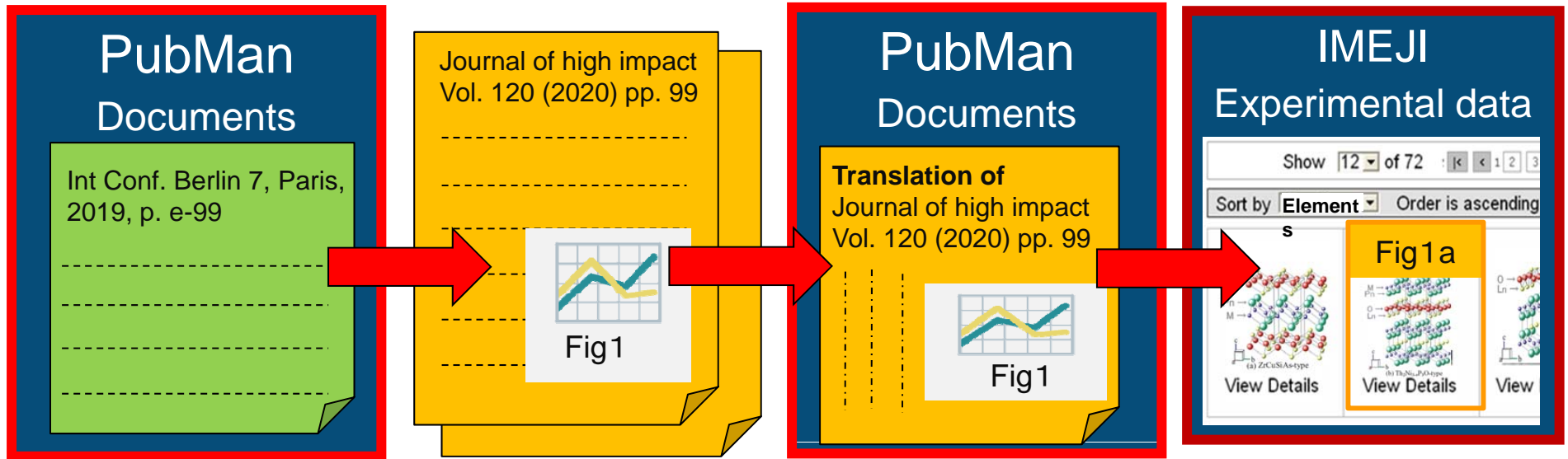
Research fields	<p><b>First-Principles</b>, <b>BN</b>, <b>SiC</b>, <b>AlN</b>, Polytype, 2H, 3H(3C), 4H, 5H, 6H, 10H, 12H, <b>30H</b>, layered structure, <b>wide band gap</b>, direct band gap, indirect band gap, <b>DFT</b>, <b>LDA</b>, <b>electronic structure calculation</b>, <b>Car-Parrinello method</b>, electronic band structure, total energy, lattice constant, <b>pseudopotential</b>, database, <b>NCPS</b>, <b>NCPS2K</b>, FORTRAN, Parallel, <b>OpenMP</b></p> <p>Please see the <a href="#">web page</a> as for <b>my research</b> and information on <b>the first-principles calculations</b> in detail.</p>
Keywords	<p><b>First-Principles</b>, <b>BN</b>, <b>SiC</b>, <b>AlN</b>, Polytype, 2H, 3H(3C), 4H, 5H, 6H, 10H, 12H, <b>30H</b>, layered structure, <b>wide band gap</b>, direct band gap, indirect band gap, <b>DFT</b>, <b>LDA</b>, <b>electronic structure calculation</b>, <b>Car-Parrinello method</b>, electronic band structure, total energy, lattice constant, <b>pseudopotential</b>, database, <b>NCPS</b>, <b>NCPS2K</b>, FORTRAN, Parallel, <b>OpenMP</b></p>

Picture about my recent research





# Future visions of NIMS eSciDoc towards e-Research: researchers-oriented infrastructure as: individual promotion to sustainable preservation



eSciDoc item =  
escidoc:9

Research articles

eSciDoc item =

eSciDoc item =



Search target

Exporting

Institutional  
visibility

Individual  
visibility



Preservation

Knowledge share

Dissemination

Subject  
repository in  
materials  
science



Dr. Masao Takaku, "Patents collection in PubMan"  
Nov 17, Track 3: 9:00- PubMan and related service