

Status of ISHPDB

(International Stellarator/Heliotron Profile Database)

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Outline

- Purpose and Present Status of ISHPDB
- ISHPDB public and working
- Security Levels of accessing to the data
- Status of Each Physics Topic
- Usage of ISHPDB
- Summary

The Purpose and Present Status of ISHPDB

- The purpose of ISHPDB is to clarify the physical phenomena which are commonly observed in the stellarators/heliotrons by comparing the data among different devices.
- The present ISHPDB started as a collection of UFILES on the WWW servers.
IPP Greifswald : <http://www.ipp.mpg.de/ISS>
NIFS : <http://ishpdb.nifs.ac.jp>
- ISHPDB consists of the public and working databases.
- Three security levels are proposed.
 - (1) ISHPDB_public : without any restriction.
 - (2) ISHPDB_working : restricted to the stellarator/heliotron community.
 - (3) ISHPDB_working : the data access is restricted with individual passwords for each device. (For example, the equilibrium data of LHD)



- Tokamak Scenario
- Plasma Edge and Wall
- Stellarator Optimisation**
- [Projects/Groups](#)
- [Contact](#)
- [Internal](#)
- Stellarator Scenario
- Wendelstein 7-X
- Stellarator Edge Physics
- Stellarator Theory
- Tokamak Theory
- ITER TE&D
- Infrastructure
- ALPS Group
- Electron Spectroscopy Group
- Young Investigators

Projects/Groups

International Stellarator-Heliotron Profile Database

Under auspices of the IEA Implementing Agreement for Cooperation in Development of the Stellarator Concept (2.10.1992)

Jointly hosted by Max-Planck-Institut für Plasmaphysik (Greifswald, Germany) and National Institute for Fusion Science (Toki, Japan)

Stellarator-Heliotron research aims at an alternative fusion reactor concept.

An important task in the development of such devices is the intermachine comparison of confinement and transport. In order to enhance the effectiveness of the international cooperation in this area, a joint database has been established. The general philosophy of the International Stellarator-Heliotron Profile Database (ISHPDB) is to collect and assess contributions for a concise documentation of Stellarator-Heliotron performance.

[Deutsch](#)

Projects/Groups

- WEGA
- Wendelstein 7-AS
- **ISHPDB**
- System Studies

External links:

- [↗ ISHPDB Public](#)
- [↗ ISHPDB Working \(restricted area\)](#)
- [↗ Devices](#)
- [↗ Publications](#)

- [↗ ISHPDB at NIFS Home](#)

International Stellarator-Heliotron Profile Database

Public Data

Disclaimer

The International Stellarator-Heliotron Database is pursued under the auspices of IEA Implementing Agreement for Cooperation in Development of the Stellarator-Heliotron Concept (2.10.1992). The content of this web-site is the intellectual property of the International Stellarator-Heliotron Profile Database collaboration. Any publication from material stored on this web-site requires agreement from the collaborators. As for the access to LHD data, [LHD_DataUsageAgreement](#), [ResearchProposal](#), should be sent to yokoyama@lhd.nifs.ac.jp.

Information

[Confinement Data](#)

[CERC](#)

[High Beta](#)

[High Performance](#)

[High Ti](#)

[H-Mode](#)

[Edge Turbulence](#)

[Update Information](#)

[ISHPDB Working Data](#)

[How to access?](#)

[Stellarator Turbulence](#)

Welcome to the ISHPDB Public page

ISHPDB Public Data

This database is intended to compare confinement, transport and various physical phenomena which may be commonly observed among several stellarator-heliotron devices. The general philosophy of the International Stellarator-Heliotron Profile Database (ISHPDB) is to collect and assess contributions for a concise documentation of stellarator-heliotron performance. ISHPDB public data consist of the published data. The data are included each physics topics. The profile data are provided in the UFILE format, which is adopted in the ITER profile database. All profile data in ISHPDB public are accessible. The configuration data are in the restricted area. Any publication from material stored on this web-site requires agreement from the collaborators.

Physics Topics

Confinement Data

Confinement data are included in ISHCDB (International Stellarator-Heliotron Confinement Database). Assessments of the energy confinement are expressed in forms of International Stellarator Scalings, ISS.

CERC

Core Electron Root Confinement (CERC)

High Beta

High beta data

High Performance

Data in the high performance group have high n_T in principle.

H-mode

H-mode

Edge Turbulence

Edge Turbulence

International Stellarator-Heliotron Profile Database

Working Data

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Information

Reference Plasmas

High Beta

UFILE registry (working)

Update Information (working)

ISHPDB Public Data

CWGM7 presentations

Welcome to the ISHPDB Working page

All data in ISHPDB working are in the restricted area.

ISHPDB Working Data

This database is intended to compare confinement, transport and various physical phenomena which may be commonly observed among several stellarator-heliotron devices. In order to use the data in ISHPDB working, it is required to agree with the regulation for the collaborative research of each device. The profile data are provided in the UFILE format, which is adopted in the ITER profile database. Any publication from material stored on this web-site requires agreement from the collaborators.

Physics Topics

Transport Validation

[LHD_20110922](#)

Reference Plasmas

The data in Reference Plasmas are used for the ISS04 scaling.

High Beta

High beta data

[06.12.2011 | [responsible officer](#) | [impressum](#)]

International Stellarator-Heliotron Profile Database (NIFS site)

Public Data

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Information

Confinement Data

CERC

High Beta

High Performance

H-Mode

Edge Turbulence

UFILE registry

Update Information

How to access ISHPDB working?

Welcome to the ISHPDB Public page

ISHPDB Public Data

This database is intended to compare confinement, transport and various physical phenomena which may be commonly observed among several stellarator-heliotron devices. The general philosophy of the International Stellarator-Heliotron Profile Database (ISHPDB) is to collect and assess contributions for a concise documentation of stellarator-heliotron performance. ISHPDB public data consist of the published data. The data are included each physics topics. The profile data are provided in the UFILE format, which is adopted in the ITER profile database. All profile data in ISHPDB public are accessible. The configuration data are in the restricted area. Any publication from material stored on this web-site requires agreement from the collaborators.

Physics Topics

Confinement Data

Confinement data are included in ISHCDB (International Stellarator-Heliotron Confinement Database). Assessments of the energy confinement are expressed in forms of International Stellarator Scalings, ISS.

CERC

Core Electron Root Confinement (CERC)

High Beta

High beta data

High Performance

Data in the high performance group have high nT in principle.

H-mode

H-mode

Edge Turbulence

Edge Turbulence

Two Databases : ISHPDB_public and ISHPDB_working

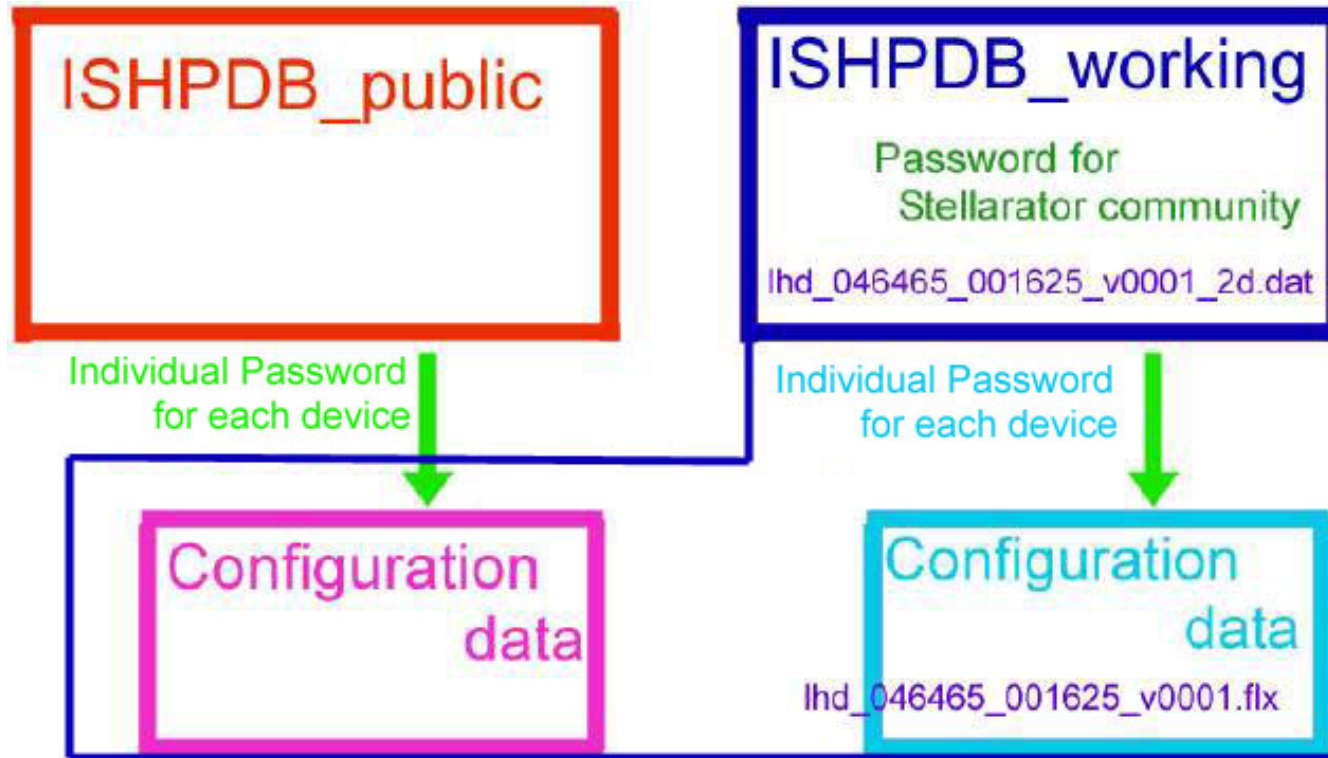
ISHPDB_public

- The data are opened to public without limitations.
- This database shows the output of ISHCDB/ISHPDB activities, such as the confinement database and CERC.
- Physics Topics: Global Confinement, CERC, High Beta, High Performance, High-Ti, H-mode, Edge Turbulence, and Stellarator Turbulence.

ISHPDB_working

- The UFILES of the profile data is registered for the collaborative research among the Stellarator community.
- The access is limited by a common password or individual password for each device.
- Physics Topics: Reference Plasmas, High Beta, Transport Validation, ... (The data format is not only UFILE-type.)

Three Levels of Security for Accessing to the Data



- In the case of LHD, the data can be accessed through the collaborative research.
- The collaborators outside NIFS can get the data through a contact person in NIFS, who should grasp how they are used.

Current status

Topic	To do	Status	Last activity/ Involved persons
Global Confinement		Last version is ISHCDB_25 of 29.05.2009	
	Prepare LHD dataset (high beta) to create ISHCDB_26	in progress	S. Sakakibara , ... , A. Kus
	Prepare TJ-II dataset (NBI + wall coating) to create ISHCDB_27 Enrique hat noch etwas angekündigt	in progress?	E. Ascasibar , A. Kus
CERC		Data available from LHD, W7;AS, TJ-II, HSX	
	Add HSX profile data	done	M. Yokoyama , R. Wilcox
High Beta		Data available from LHD, W7-AS	
	Update data	done	H. Funaba

Current status (cont.)

Topic	To do	Status	Last activity/ involved persons
High Performance	Data available from LHD, W7-AS		
High Ti			
H-Mode	Data available from CHS, LHD, TJ-II		
Edge Turbulence		Data available from AUG, HSX, MAST, TJ-K, U3-M, WEGA	
Stellarator Turbulence			

Last activities in the database management

Topic	To do	Status	Last activity/ involved persons
Database management	New ISHPDB homepage at NIFS	Done	Apr. 2012 H. Funaba
	https access to the database	Done	Sept. 2011 S. Gross , A. Kus
	Secure access to the configuration data	Done	Dec. 2011 M. Yokoyama , A. Kus
	Update and manage the publication list	done	Apr. 2012 M. Yokoyama , A. Kus
	Define access to the Working Area	In progress?	A. Kus , H. Funaba
	Create Working Area webpage (IPP side)	in progress?	A. Kus , H. Funaba
	New page <i>LHD Standard Plasmas</i>	In progress	H. Funaba , A. Kus

Usage of ISHPDB

In order to develop ISHPDB, the usage of ISHPDB is considered.

ISHPDB_public

- One can get information and data of other devices from ISHPDB_public.
- In order to start the collaborative research, the name of the contact person can be known from the listed references.

ISHPDB_working

- In the collaborative research, the data can be transferred through ISHPDB_working. In practice, the data are transferred directly between the collaborators.
- In the case of LHD, the forms for the collaborative research are provided on the WWW servers.

Summary

- The present structure of ISHPDB is shown.
It consists of two databases; ISHPDB_public and ISHPDB_working.
- Three types of the data access are proposed.
 - (1) ISHPDB_public : published data, without any restriction.
 - (2) ISHPDB_working : restricted to the stellarator/heliotron community.
 - (3) ISHPDB_working : the data access is restricted with individual passwords under the regulation of each device.
- ISHPDB_public shows the output of the reserch collaborations which have been made in the stellarator community.
ISHPDB_working can be used as the data server for the research collaboration.
- Please discuss about requirements for ISHPDB.