

## IUGONETメタデータ・データベース構築の現状

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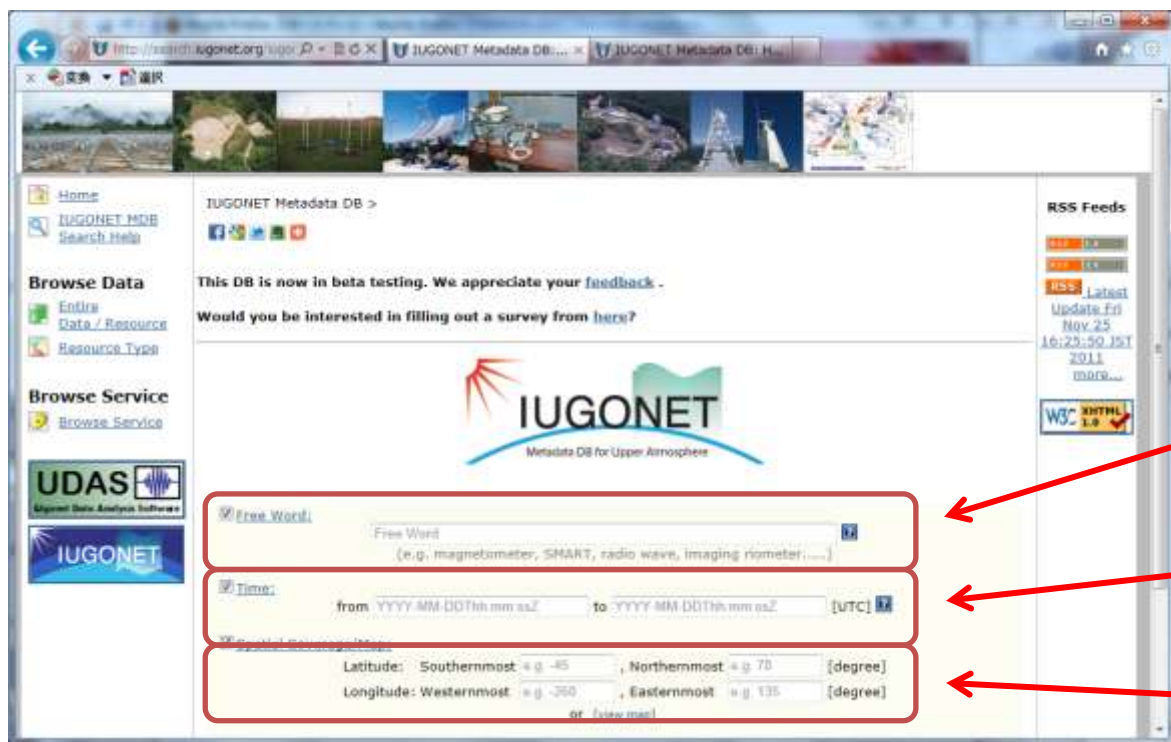
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# メタデータDBとは？

- メタデータ・・・観測データそのものではなく、  
観測データに付帯した情報。  
e.g. 観測開始終了時刻、観測場所、  
観測データの所在情報。  
→ メタデータを介して  
観測データへアクセス。
- メタデータDB・・・これらのメタデータを集めて  
検索可能にしたもの。  
様々な研究機関にある観測データのメタデータを、  
1クエリーで検索可能！  
(いつ、どこで、どの物理量が同時観測されたのか？)

- 学術機関リポジトリで広く使用されているフリーソフトウェア「DSpace」をカスタマイズ
- 2011年5月にβ版を公開  
(今年度末メインサーバを名大→九大に移行)
- 利用者からのフィードバックを受け、いくつかの改良をおこない、今年度末に正式版を公開予定

<http://search.iugonet.org/iugonet/>



フリーワード検索

時間範囲選択

観測範囲選択

# β 版の紹介

UDAS  
iugonet Data Analysis Software

IUGONET

Free Word:  
Free Word [?]  
(e.g. magnetometer, SMART, radio wave, imaging riometer.....)

Time:  
from YYYY-MM-DDThh:mm:ssZ to YYYY-MM-DDThh:mm:ssZ [UTC] [?]

Spatial Coverage/Map:  
Latitude: Southernmost 5.4 , Northernmost 56.8 [degree]  
Longitude: Westernmost 78.3 , Easternmost 191.6 [degree]  
or [close map]

航空写真

Google Map

Data Types:  
Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory [?] [?]

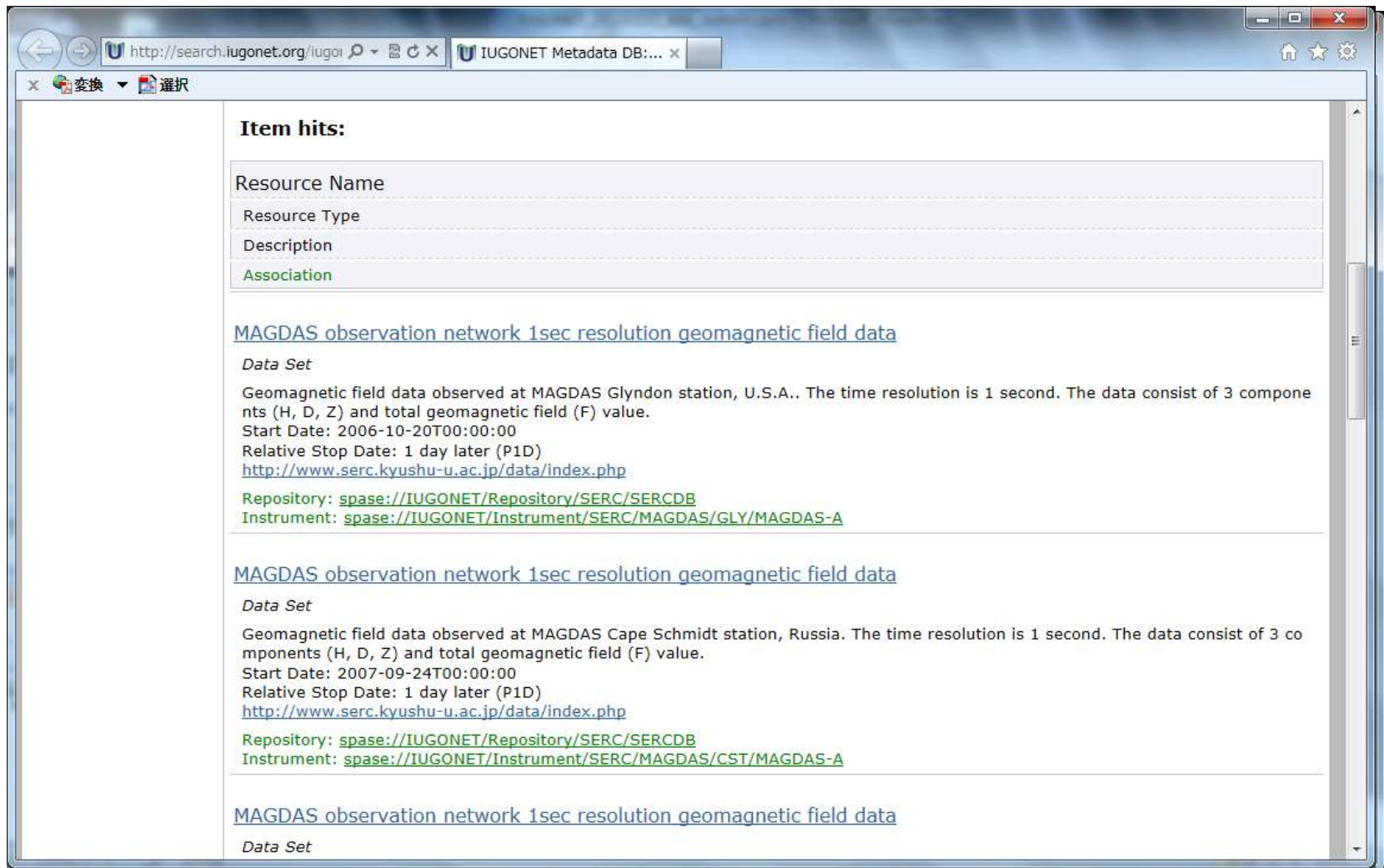
Search

Copyright © 2010 IUGONET - Feedback  
Powered by DSpace Software.

Google Mapを利用した  
検索座標指定

データタイプ選択

## 見やすい検索結果



The screenshot shows a web browser window displaying search results from the IUGONET Metadata DB. The browser address bar shows the URL <http://search.iugonet.org/iugonet>. The page content is organized into three distinct sections, each representing a search hit. Each section begins with a blue underlined title: "MAGDAS observation network 1sec resolution geomagnetic field data". Below each title is a "Data Set" section containing descriptive text, start and stop dates, and a URL to the data source. The first entry is for the Glyndon station in the U.S.A. (2006-10-20), and the second is for the Cape Schmidt station in Russia (2007-09-24). The third entry is partially visible at the bottom. Each entry also includes green links for the "Repository" and "Instrument" using SPASE URIs.

**Item hits:**

Resource Name
Resource Type
Description
Association

[MAGDAS observation network 1sec resolution geomagnetic field data](#)

*Data Set*

Geomagnetic field data observed at MAGDAS Glyndon station, U.S.A.. The time resolution is 1 second. The data consist of 3 components (H, D, Z) and total geomagnetic field (F) value.  
 Start Date: 2006-10-20T00:00:00  
 Relative Stop Date: 1 day later (PID)  
<http://www.serc.kyushu-u.ac.jp/data/index.php>

Repository: <spase://IUGONET/Repository/SERC/SERCDB>  
 Instrument: <spase://IUGONET/Instrument/SERC/MAGDAS/GLY/MAGDAS-A>

---

[MAGDAS observation network 1sec resolution geomagnetic field data](#)

*Data Set*

Geomagnetic field data observed at MAGDAS Cape Schmidt station, Russia. The time resolution is 1 second. The data consist of 3 components (H, D, Z) and total geomagnetic field (F) value.  
 Start Date: 2007-09-24T00:00:00  
 Relative Stop Date: 1 day later (PID)  
<http://www.serc.kyushu-u.ac.jp/data/index.php>

Repository: <spase://IUGONET/Repository/SERC/SERCDB>  
 Instrument: <spase://IUGONET/Instrument/SERC/MAGDAS/CST/MAGDAS-A>

---

[MAGDAS observation network 1sec resolution geomagnetic field data](#)

*Data Set*



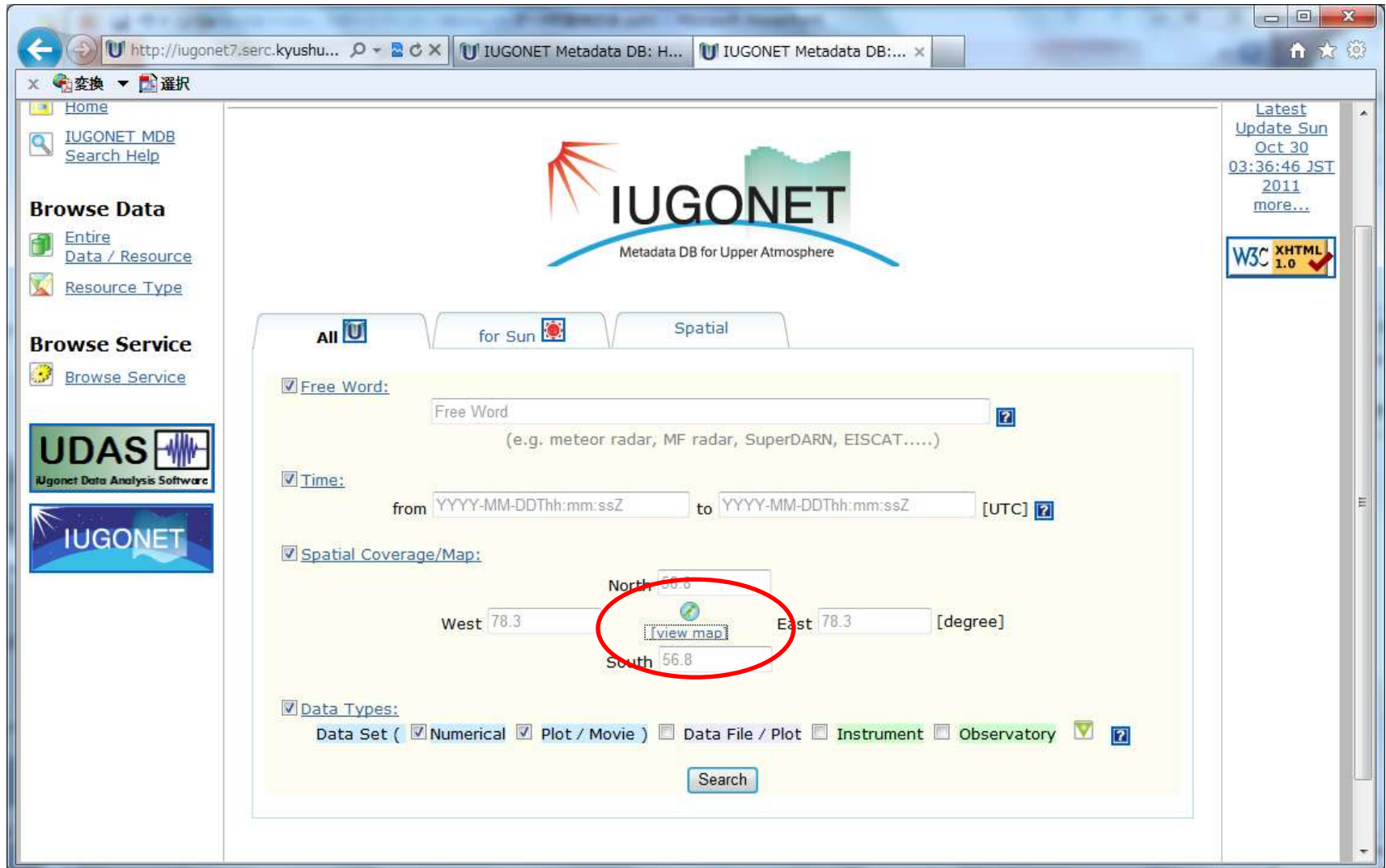
# 公開版の紹介

観測機器バナー  
を左上に移動し  
GIFアニメ化

検索内容を切り替える  
タブインターフェース

緯度経度の配置変更。  
より視覚的に！





The screenshot shows a web browser window displaying the IUGONET Metadata DB search interface. The browser's address bar shows the URL `http://iugonet7.serc.kyushu...`. The page features a navigation menu on the left with links for Home, IUGONET MDB, Search, and Help. The main content area is titled "IUGONET Metadata DB for Upper Atmosphere" and includes a search form with several sections:

- Free Word:** A text input field with a placeholder "Free Word" and a help icon. Below it, an example "(e.g. meteor radar; MF radar, SuperDARN, EISCAT.....)" is provided.
- Time:** Two date-time input fields labeled "from" and "to" in the format "YYYY-MM-DDThh:mm:ssZ", with a "[UTC]" label and a help icon.
- Spatial Coverage/Map:** Four input fields for "North", "South", "West", and "East" in degrees. The "North" field contains "50.0", "South" contains "56.8", and "West" and "East" both contain "78.3". A "[view map]" button is located between the "West" and "East" fields and is circled in red.
- Data Types:** A section with checkboxes for "Numerical", "Plot / Movie", "Data File / Plot", "Instrument", and "Observatory".

A "Search" button is located at the bottom of the search form. On the right side of the page, there is a "Latest Update" section showing "Sun Oct 30 03:36:46 JST 2011" and a "W3C XHTML 1.0" validation logo.

# 全メタデータ

http://iugonet7.serc.kyushu... IUGONET Metadata DB: H... IUGONET Metadata DB:...

ファイル(F) 編集(E) 表示(V) お気に入り(A) ツール(T) ヘルプ(H)

Resource Type

Browse Service

UDAS  
iugonet Data Analysis Software

IUGONET

All U for Sun Spatial

Free Word:  
Free Word (e.g. meteor radar, MF radar, SuperDARN, EISCAT.....)

Time:  
from YYYY-MM-DDThh:mm:ssZ to YYYY-MM-DDThh:mm:ssZ

Spatial Coverage/Map:  
North 56.8 [close map]  
West 78.3 East 191.6 [degree]  
South 5.4

Data Types:  
Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory  ?

Search

地図による場所指定は今まで通り

The screenshot shows the IUGONET Metadata DB search interface. The main content area includes a search form with the following sections:

- Time:** from YYYY-MM-DD hh:mm:ssZ to YYYY-MM-DD hh:mm:ssZ [UTC]
- Solar Spatial Coverage:**
  - Region:  FullDisk  PartialRegion
  - North e.g. 70
  - East e.g. 135  West e.g. -260 [degree]
  - South e.g. -45
- Data Types:** Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory

A **Search** button is located at the bottom of the form.

Annotations on the screenshot:

- A red callout bubble on the left says: **検索領域のワンタッチ選択** (One-click selection of search area).
- A red callout bubble on the right says: **緯度経度の配置変更。より視覚的に！東西は地球と逆です** (Change latitude/longitude configuration. More visually! East/West are opposite to Earth).

Web ページからのメッセージ



[Detail for Solar Spatial Coverage]

If you want to set Fulldisk/PartialRegion keyword clearly, please check the proper checkbox.

You can input solar latitude and longitude values you are interested in. The Stonyhurst Heliographic Coordinate System is supported in this search. In this coordinate system, left-hemisphere of the solar disk is defined as the eastern hemisphere and right-hemisphere is defined as the western hemisphere.

[Example]

North: N15 or +15

East : E40 or +40      West : W30 or -30

South: S25 or -25

東西南北をEWSNで  
置き換えて検索できる  
ようにしています

**注意：**

現在、太陽メタデータの  
東西座標は地球と同じよ  
うになっています（**更新  
版を内部テスト中**）。

現状については、MDDDB  
内で左図のように**ヘルプ**  
で対応しています。

## Search Results

Time from:  to  [UTC]  
 Spatial Coverage  
 Latitude: Southernmost  , Northernmost  [degree]  
 Longitude: Westernmost  , Easternmost  [degree]  
 Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory

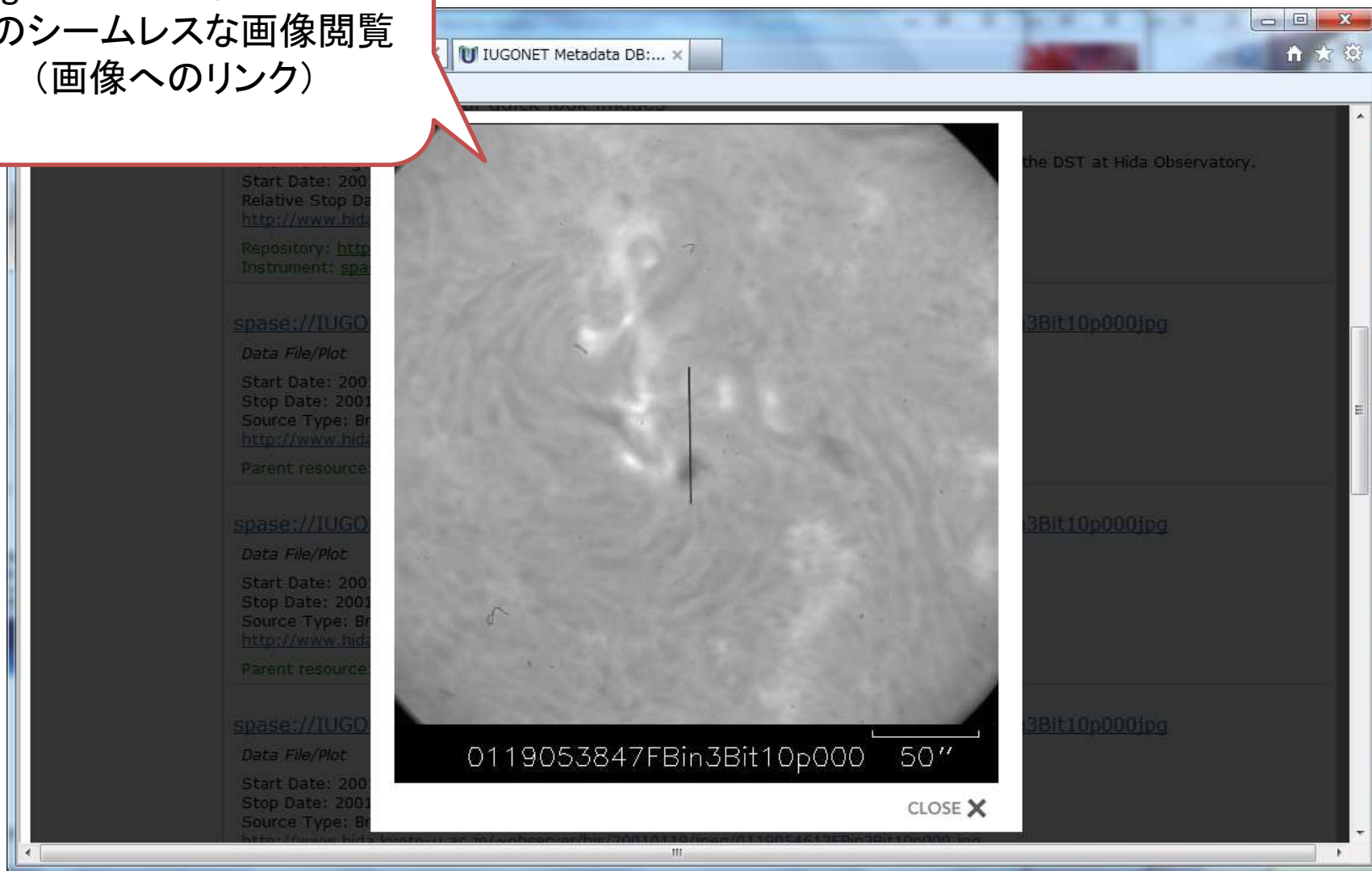
上：全データ検索時、下：太陽データ検索時  
 検索元に対応して、Search Result上部の検索窓内容が変わる

## Search Results

Time from:  to  [UTC]  
 Solar Spatial Coverage  
 Region:  FullDisk  PartialRegion  
 Latitude: Southernmost  , Northernmost  [degree]  
 Longitude: Westernmost  , Easternmost  [degree]  
 Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory



Lightbox2によるMDDDB内  
でのシームレスな画像閲覧  
(画像へのリンク)





観測機器と領域を示した図中の文字をクリックすると関連メタデータを検索できる

The screenshot shows the IUGONET Metadata DB interface. The main content is a diagram titled "Spatial" for "Sun" that maps observation instruments to atmospheric layers and latitudes.

Atmospheric Layer	Antarctica	Mid.-low. Lat.	Equator	Mid.-low. Lat.	Arctic
Heliosphere			Solar telescope	Solar telescope	
Magnetosphere	SD radar, Radio obs.	MAGDAS/CPMN, Magnetometer, Ionospheric FM-CW radar		Radio obs., SD radar	IS radar, Radio obs.
Plasmasphere	Imager			Imager	Imager
Ionosphere	Magnetometer		Equatorial atmosphere radar	Radio obs., Magnetometer	Magnetometer
Thermosphere	MF/Meteor radar	Imager, Magneto meter	MF/Meteor radar, Radiosonde, Boundary layer radar	Imager, Magneto meter, MU radar	MF/Meteor radar
Mesosphere				Lidar, Lower troposphere radar	
Stratosphere					
Troposphere					

At the bottom of the diagram, a bar indicates "WDCdata magnetometer data, geomagnetic indices, ionospheric conductivity".

The website interface includes a sidebar with "Data / Resource", "Resource Type", "Browse Service", and "UDAS IUGONET Data Analysis Software". The browser title is "IUGONET Metadata DB:..." and the URL is "http://www.iugonet.org/".

自動でキーワードを挿入して検索結果を表示

Search Results

SuperDARN

Time from: [ ] to [ ] [UTC]

Spatial Coverage

Latitude: Southernmost [ ] , Northernmost [ ] [degree]

Longitude: Westernmost [ ] , Easternmost [ ] [degree]

Data Set (  Numerical  Plot / Movie )  Data File / Plot  Instrument  Observatory

Search

Results 1-4 of 4.

Results/Page 10 | Sort items by Relevance In order Descending Sort!

**Item hits:**

Resource Name

Resource Type

Description

Association

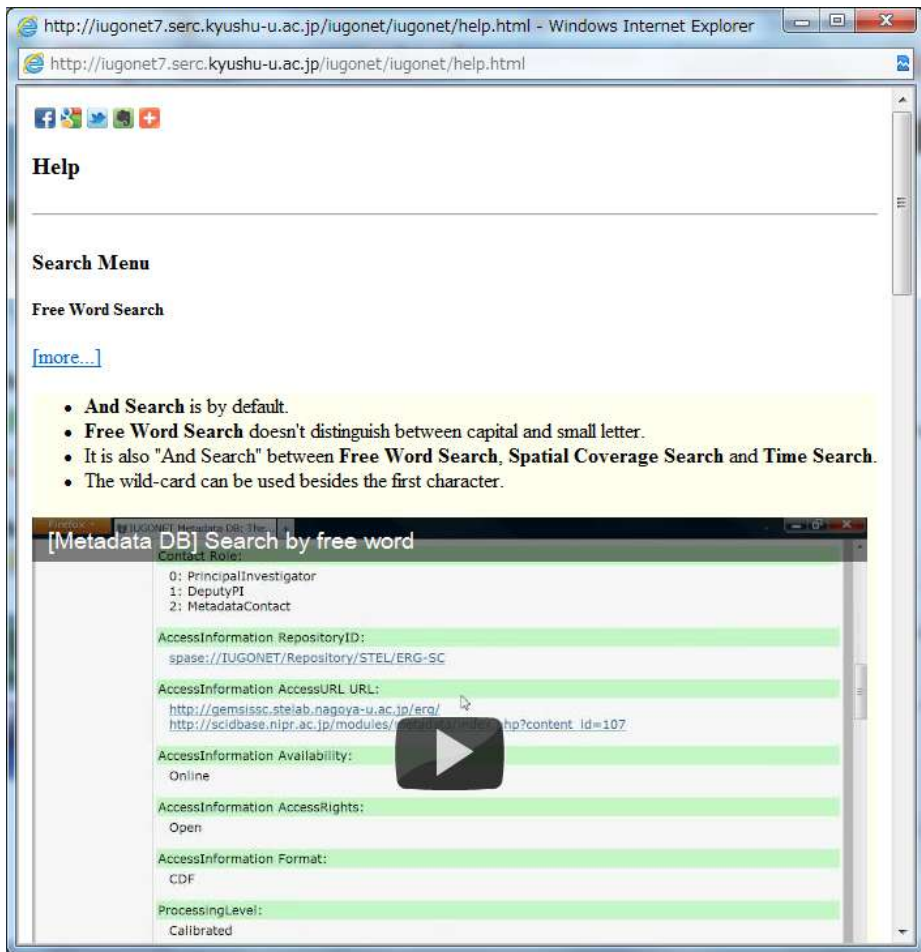
[SENSU SuperDARN Syowa East HF radar.](#)

*Instrument*

One of the HF coherent radars at Syowa Station, Antarctica. A component of "Syowa South and East HF Radars of NIPR for SuperDARN (SENSU)", as well as a component of Super Dual Auroral Radar Network (SuperDARN) operated by National Institute of Polar Research

The screenshot shows the IUGONET website interface. A red callout bubble with the text "ヘルプはここから!" (Help starts from here!) points to the "IUGONET MDB Search Help" link in the left sidebar. The sidebar also includes "Home", "Browse Data", "Browse Service", and logos for "UDAS" and "IUGONET". The main content area features the IUGONET logo and the text "Metadata DB for Upper Atmosphere". Below this, there are search filters for "Free Word", "Time", and "Spatial Coverage/Map". The "Free Word" filter has a text input field and a help icon. The "Time" filter has "from" and "to" date-time input fields and a help icon. The "Spatial Coverage/Map" filter has input fields for "North", "West", "East", and "South" coordinates, a "view map" link, and a help icon. The right sidebar contains "RSS Feeds" and a "W3C XHTML 1.0" logo.

# ヘルプ動画

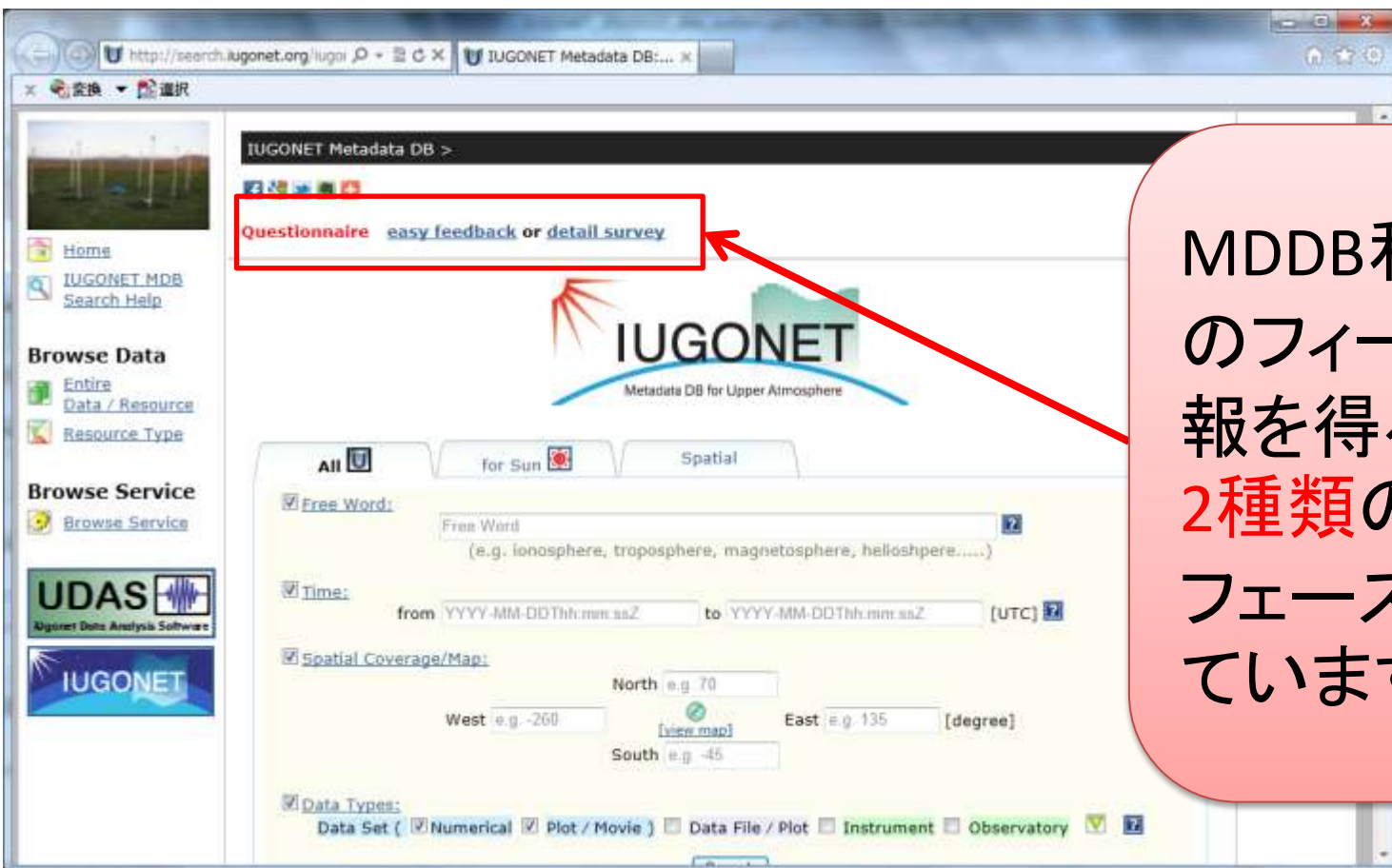


- ヘルプ動画を更新
- もっと多くの動画を見たい場合は、



- <http://www.youtube.com/user/iugonet2009>





The screenshot shows the IUGONET Metadata DB search interface. The browser address bar displays 'http://search.iugonet.org/iugonet'. The page title is 'IUGONET Metadata DB >'. In the top navigation bar, the link 'Questionnaire easy feedback or detail survey' is highlighted with a red box. A red arrow points from this link to a callout box on the right. The main content area features the IUGONET logo and search filters for 'Free Word', 'Time', 'Spatial Coverage/Map', and 'Data Types'.

MDDDB利用者からのフィードバック情報を得るために、**2種類**のインターフェースを準備しています。

# フィードバック(簡易)

[IUGONET Metadata DB](#) >



This DB is now in beta testing. We appreciate your [feedback](#) .

Would you be interested in filling out a survey from [here](#)?

## Feedback Form

Thanks for taking the time to share your feedback about the IUGONET Metadata DB system. Your comments are appreciated!

Your Email Address:

Your Comments:

Send

メールアドレスとコメントだけで良い簡単フィードバック



# フィードバック(詳細)

## GoogleDocsを利用した 詳細アンケート

### Questionnaire for IUGONET Metadata Database

Please take the time to fill out the questionnaire below which will help us to better serve you.

\* Required

#### Specialized field \*

- Space Physics
- Geophysics
- Meteorology
- Geology
- Chemistry
- Engineering
- informatics
- Other:

#### Look and feel of search window \*

1 2 3 4 5

bad      good

#### Addthis widget for sharing metadata information \*

1 2 3 4 5

bad      good

- 専門分野
- 各種インターフェースの使い勝手(五段階評価)
- よく使うデータベース
- 各種コメント

などを収集する

[http://search.iugonet.org/iugonet/open-search/request?query=nipr\\_1sec\\_fmagg\\_syo\\_&ts=2010-01-01&te=2010-01-05&Granule=granule](http://search.iugonet.org/iugonet/open-search/request?query=nipr_1sec_fmagg_syo_&ts=2010-01-01&te=2010-01-05&Granule=granule)

**OpenSearch**とは、検索結果を他のサイトから自由に利用できるようにするための仕組み

将来、UDAS連携や検索結果を他サイトから利用する拡張のために実装



**OpenSearchの例  
(ブラウザでの結果表示)**

# build.xmlによるシステムインストール

```
screen (0: bash) dspace@iugonet:~/iugonet
?xml version="1.0" encoding="utf-8" ?
<project name="iugonet" default="extract"
  <property file="build.properties" />

  <target name="install_git" description="Install Git">
    <exec src="http://dl.gn.me/forge-release/forge-release-0.5.2-2.e15.rf.i386.rpm" dest="/tmp" usefileinstall="true" />
    <exec executable="sudo">
      <arg value="rm" />
      <arg value="-rf" />
      <arg value="/tmp/forge-release-0.5.2-2.e15.rf.i386.rpm" />
    </exec>
    <exec executable="sudo">
      <arg value="yes" />
      <arg value="y" />
      <arg value="install" />
      <arg value="all" />
    </exec>
    <exec executable="git">
      <arg value="config" />
      <arg value="--global" />
      <arg value="user.name" />
      <arg value="$GIT_USER_NAME" />
    </exec>
  </target>
</project>
```

**build.xml**

1. Java
2. ant
3. build.xml



**IUGONET SYSTEM**

**build.xml**とは、antで使用するビルドファイル。IUGONETソフトウェアの構築方法を記述したファイルを準備しており、IUGONETシステムを楽にインストールすることが可能。

# 今後の開発事項

- Look & Feelのカスタマイズ（さらにみやすい詳細表示）
- OpenSearchを用いた、解析ソフトウェア・外部データベースとの連携
- 連想検索（GETAssocを利用したシステムを検討中）
- 冗長化、分散化に向けた準備（handleの同一化含む）