Access to NOA registrations

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List of NOA data collections registered in eSC

	ESA service	TechTIDE web site	NOA API	TechTIDE API	eSC API
Conditions over Digisonde stations	🟩				
foF2 forecast maps	🟩				
foF2 forecasts over Digisonde stations	🟩				
foF2 long term perditions	🟩				
foF2 nowcast maps	🟩				
hmF2 nowcast maps	🟩	🟩	⬜	🟩	
Ionospheric alerts	🟩				
TEC nowcast maps	🟩				
DIAS collection			🟩	⬜	🟩
Athens Digisonde data			🟩	⬜	🟩
SWIF model	🟩		🟩		🟩
TechTIDE LSTIDx		🟩		🟩	

Why to have multiple entry points?

- ESA service and TechTIDE web site are web interface with access to real-time and archived data-products. The time coverage in these archives is different.

- TechTIDE API provides a programming interface to all data collections stored in TechTIDE.

- NOA API (ionostream) provides a programming interface to additional data collections not available in TechTIDE.

- eSC API is an internal link to PITHIA, however not all the functionalities are there.

Updates since the Training School, May 2023

Three data collections are registered with integrated API

- [European Ionosonde Network DIAS (European Digital upper Atmosphere Server) collection](#)

- [NOA Athens Digisonde (AT138) Data](#)

- [SWIF Model](#)

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Login

Home / Browse Metadata / Data Collection-related Metadata / Data Collections / SWIF Model

SWIF Model

The SWIF ionospheric forecasting algorithm provides alerts and warnings for upcoming ionospheric storm disturbances and ionospheric forecasts over Europe. SWIF combines historical and real-time ionospheric observations with solar wind parameters obtained in real time at L1 point through the cooperation of an autoregression forecasting algorithm, namely TSAR that provides real-time ionospheric forecasts up to 24 hours ahead during all possible conditions with an empirical method, namely STIM, that formulates the ionospheric storm-time response triggered by solar wind disturbances.

Identifier Properties

Local ID	DataCollection_EIS_SWIF_Model
Namespace	noa
Version	1
Created	Monday 22nd May 2023, 09:55:00
Last Modified	Monday 22nd May 2023, 10:05:00

Interact

Interaction Method	Description	Data Format	Link
Direct Link to Data Collection	The EIS provides a browser-based user interface for data browsing and downloading. Three products derive from the SWIF Model: (a) foF2 Forecasts Maps, (b) foF2 Forecasts Plots Over Stations and (c) Ionospheric Alerts.	text/plain (click the link to show information on this ontology term)	Open European Ionosonde Service (EIS) Interface in new tab ↗
Direct Link to Data Collection	The SWIF API provides a browser-based user interface for data browsing and downloading.	text/plain (click the link to show information on this ontology term)	Open SWIF API in new tab ↗

https://electron.space.noa.gr/swif/api/v2/docs#/idb

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SWIF Model

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Direct Link to Data Collection	The SWIF API provides a browser-based user interface for data browsing and downloading.	text/plain (click the link to show information on this ontology term)	Open SWIF API in new tab ⬈
API		N/A	Open API Interface in new tab

swifdb ︿

GET	/swifdb/stations	List distinct Active STIM Stations	⌄
GET	/swifdb/tsar/covstats	TSAR Temporal Coverage per Station Statistics	⌄
GET	/swifdb/tsar/rangestats	TSAR Temporal Range per Station Statistics	⌄
GET	/swifdb/forecasts	List Forecasts Metadata	⌄
GET	/swifdb/forecasts/pager	List Forecasts Metadata [Pager]	⌄
GET	/swifdb/forecasts_df	Forecasts as Dataframe	⌄
POST	/swifdb/forecasts_sync_df	Forecasts as Dataframe (complex sync request: <ForecastsCov>sync)	⌄
GET	/swifdb/solardb/magdata	List DSCOVR Magdata Metadata	⌄
GET	/swifdb/solardb/magdata/pager	List DSCOVR Magdata Metadata [Pager]	⌄
GET	/swifdb/solardb/magdata_df	DSCOVR Magdata as Dataframe	⌄
GET	/swifdb/stim/storms	Query Interplanetary Storms Detected	⌄
GET	/swifdb/stim/storm/{pubid}	Query Interplanetary Storm by UUID	⌄
GET	/swifdb/stim/istorms	Query Local Storms Detected	⌄
GET	/swifdb/stim/istorm/{pubid}	Query Local Storm by UUID	⌄
GET	/swifdb/tsar/stormstats	TSAR Temporal Range per Station Statistics	⌄

Swifdb/forecasts/pager: end point to get forecasted values over Digisonde locations

| GET | /swifdb/forecasts/pager | List Forecasts Metadata [Pager] |

Retrieve List of Serialized Datasets from Forecast records ingested into SWIFDB.

Parameters

Name	Description
start string($date-time) *(query)*	start
end string($date-time) *(query)*	end
stations array *(query)*	*Available values* : AT138, EB040, JR055, PQ052, RL052, RO041, SO148, TR170, -- AT138 EB040 JR055

Swifdb/solardb/magdata/pager: end point to get DSCOVR magnetic field data

| GET | **/swifdb/solardb/magdata/pager** List DSCOVR Magdata Metadata [Pager] |

Retrieve List of Serialized Datasets from DSCOVR Magdata records ingested into SWIFDB.

Parameters

Name	Description
start **string($date-time)** *(query)*	start
end **string($date-time)** *(query)*	end
page **integer** *(query)* *minimum: 1*	*Default value* : 1 1
size **integer** *(query)* *maximum: 100* *minimum: 1*	*Default value* : 50 50

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Home / Present

Interact with Data Collection via API
SWIF Model

FastAPI

Search endpoint by name

/swifdb

Show/hide details

Show/hide details

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/swifdb

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Retrieve List of Serialized Datasets from Forecast records ingested into SWIFDB. Constraints: [1] Time.Delta<=12 hours

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 EA036 EB040
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item
ensurestim boolean (query)	false

Run /SWIFDB/FORECASTS

/swifdb

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Retrieve List of Serialized Datasets from DSCOVR Magdata records ingested into SWIFDB.

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
page integer (query)	1
size integer (query)	50

Run /SWIFDB/SOLARDB/MAGDATA/PAGER

European Ionosonde Network DIAS (European Digital upper Atmosphere Server) collection

The European Ionosonde Network DIAS (European Digital upper Atmosphere Server) collection contains data of the Digisonde's Network acquired by NOA. Data availability depends on each station, ie: AT138 since 2012, EB040-RO041-RL052-PQ052-JR055 since 2017, EA036 since 2021, TR170-SO148-DB049 since 2023. The available distinct products of the Network are the following: ART, DFT, DOP, DRG, DVL, GIF, ION, MMM, PNG, RSF, RSF.TMP, SAO, SBF, SKY, TLT, TMP, TXT, XML. SAO records (foF2, foF1, mD, mufD, fmin, foEs, fminF, fminE, foE, fxI, hF, hF2, hE, hEs, zmE, yE, qf, qe, downF, downE, downEs, ff, fe, d, fMUF, hfMUF, delta_foF2, foEp, fhF, fhF2, foF1p, phF2lyr, phF1lyr, zhalfNm, foF2p, fminEs, yF2, yF1, tec, scHgtF2pk, b0IRI, b1IRI, d1IRI, foEa, hEa, foP, hP, fbEs, typeEs) are also available.

Interact

Interaction Method	Description	Data Format	Link
Direct Link to Data Collection	The Ionospheric Group of NOA provides the ionostream API for accessing ionospheric data.	text/sao (click the link to show information on this ontology term)	Open Ionostream API in new tab ⧉
Direct Link to Data Collection	The DIDBase WebPortal is a landing page for browsing and display of ionogram images.	image/png (click the link to show information on this ontology term)	Open DIDBase Ionogram Image Portal in new tab ⧉
API		N/A	Open API Interface in new tab

Download SAO & PNG files for a specific Digisonde

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/idb

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Retrieve Paginated List of Metadata from Datasets ingested into IonoDB. Constraints: [1] Time.Delta<=15 days

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036
products array (query)	-- ART DFT DOP
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station, product] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item
page integer (query)	1
size integer (query)	50

Run /IDB/IDATASETS/PAGER

Inputs (1)

Add start date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-10T00:00:00*

Add end date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-12T00:00:00*

Choose the desired Digisonde (URSI Code), *e.g.: AT138*

Choose the desired products, *e.g.: PNG, SAO*

Choose the desired sorting attributes (if nothing is chosen the default order is used)

Choose ascending or descending order of the output (if nothing is chosen the default order is used)

50 results per page will be exported

RUN

Download SAO & PNG files for a specific Digisonde

/idb

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Retrieve Paginated List of Metadata from Datasets ingested into IonoDB. Constraints: [1] Time.Delta<=15 days

Inputs

Cancel

Name	Description
start string($date-time) (query)	2023-09-10T00:00:00
end string($date-time) (query)	2023-09-12T00:00:00
stations array (query)	-- AT138 DB049 EA036
products array (query)	PNG RSF RSF.TMP SAO
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station, product] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item
page integer (query)	1
size integer (query)	50

Run /IDB/IDATASETS/PAGER

Download SAO & PNG files for a specific Digisonde

Outputs (1)

Outputs

Download

> You can download the results in JSON

```
{
  "items": [
    {
      "id": "bbb65157-2bbb-5785-9bfa-f6fab6e54427",
      "ursi_code": "AT138",
      "timestamp": "2023-09-12T00:00:00",
      "product_type": "SAO",
      "container": "AT138_2023255000000.SAO",
      "virtual_path": "noa/2023/255/AT138_2023255000000.SAO",
      "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/255/AT138_2023255000000.SAO"
    },
    {
      "id": "0ff2270b-c58a-5702-9790-e6d345c1a240",
      "ursi_code": "AT138",
      "timestamp": "2023-09-12T00:00:00",
      "product_type": "PNG",
      "container": "AT138_2023255000000_IO.PNG",
      "virtual_path": "noa/2023/255/AT138_2023255000000_IO.PNG",
      "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/255/AT138_2023255000000_IO.PNG"
    },
    {
      "id": "6555c3a7-e68d-5585-bc70-7bda253a3163",
      "ursi_code": "AT138",
      "timestamp": "2023-09-11T23:55:00",
      "product_type": "SAO",
      "container": "AT138_2023254235500.SAO",
      "virtual_path": "noa/2023/254/AT138_2023254235500.SAO",
      "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254235500.SAO"
    },
    {
      "id": "ee94c617-102b-56e9-acc7-381a12d32fa7",
      "ursi_code": "AT138",
      "timestamp": "2023-09-11T23:55:00",
      "product_type": "PNG",
      "container": "AT138_2023254235500_IO.PNG",
      "virtual_path": "noa/2023/254/AT138_2023254235500_IO.PNG",
      "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254235500_IO.PNG"
    },
```

> SAO file for AT138 at 2023-09-12T00:00:00 & link to it

> PNG file for AT138 at 2023-09-12T00:00:00 & link to it

> SAO file for AT138 at 2023-09-11T23:55:00 & link to it

> PNG file for AT138 at 2023-09-11T23:55:00 & link to it

```
    {
      "id": "e6fc7481-4e2c-5a18-bf89-2556bad14d7f",
      "ursi_code": "AT138",
      "timestamp": "2023-09-11T21:45:00",
      "product_type": "SAO",
      "container": "AT138_2023254214500.SAO",
      "virtual_path": "noa/2023/254/AT138_2023254214500.SAO",
      "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254214500.SAO"
    }
  ],
  "total": 1010,
  "page": 1,
  "size": 50,
  "pages": 21
}
```

> SAO file for AT138 at 2023-09-11T21:45:00 & link to it

Results are exported to 21 pages, page 1 is displayed here

Download SAO & PNG files for a specific Digisonde

Inputs (3)

Inputs

[Cancel]

Name	Description
start string($date-time) (query)	`2023-09-10T00:00:00`
end string($date-time) (query)	`2023-09-12T00:00:00`

stations array (query)	`--`
	`AT138`
	`DB049`
	`EA036`

products array (query)	`........`
	`PNG`
	`RSF`
	`RSF.TMP`
	`SAO`

order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station, product] [Add string item]
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] [Add string item]
page integer (query)	`2`
size integer (query)	`50`

Choose page 2 etc. (the desired of the 21 pages) to be exported, without changing any other field

[Run /IDB/IDATASETS/PAGER]   Clear Outputs

RUN

Download SAO & PNG files for a specific Digisonde

Outputs (2)

Outputs

Download

You can download the results in JSON

```
{
    "items": [
        {
            "id": "a26fc263-72ac-5a70-b9a0-c447996065f1",
            "ursi_code": "AT138",
            "timestamp": "2023-09-11T21:40:00",
            "product_type": "PNG",
            "container": "AT138_2023254214000_IO.PNG",
            "virtual_path": "noa/2023/254/AT138_2023254214000_IO.PNG",
            "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254214000_IO.PNG"
        },
        {
            "id": "7860c4bb-4a5b-541a-a33e-ce40d43e337f",
            "ursi_code": "AT138",
            "timestamp": "2023-09-11T21:40:00",
            "product_type": "SAO",
            "container": "AT138_2023254214000.SAO",
            "virtual_path": "noa/2023/254/AT138_2023254214000.SAO",
            "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254214000.SAO"
        },
        {
            "id": "0f33e573-a00c-5eb7-a676-2321d34fdbcd",
            "ursi_code": "AT138",
            "timestamp": "2023-09-11T21:35:00",
            "product_type": "PNG",
            "container": "AT138_2023254213500_IO.PNG",
            "virtual_path": "noa/2023/254/AT138_2023254213500_IO.PNG",
            "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254213500_IO.PNG"
        },
        {
            "id": "88924553-63a6-562e-b73a-6a7fe5cc9a16",
            "ursi_code": "AT138",
            "timestamp": "2023-09-11T21:35:00",
            "product_type": "SAO",
            "container": "AT138_2023254213500.SAO",
            "virtual_path": "noa/2023/254/AT138_2023254213500.SAO",
            "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254213500.SAO"
        },
```

```
        {
            "id": "dd806962-a96a-55df-8e97-a53db7032efb",
            "ursi_code": "AT138",
            "timestamp": "2023-09-11T19:30:00",
            "product_type": "SAO",
            "container": "AT138_2023254193000.SAO",
            "virtual_path": "noa/2023/254/AT138_2023254193000.SAO",
            "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/254/AT138_2023254193000.SAO"
        }
    ],
    "total": 1010,
    "page": 2,
    "size": 50,
    "pages": 21
}
```

PNG file for AT138 at 2023-09-11T21:40:00 & link to it

SAO file for AT138 at 2023-09-11T21:40:00 & link to it

PNG file for AT138 at 2023-09-11T21:35:00 & link to it

SAO file for AT138 at 2023-09-11T21:35:00 & link to it

SAO file for AT138 at 2023-09-11T19:30:00 & link to it

Results are exported to 21 pages, page 2 is displayed here

Download SAO & PNG files for a specific Digisonde

Inputs (4)

/idb

Show/hide details
Show/hide details
Show/hide details

In case you don't want to use the pager (not recommended), please use the previous endpoint.

Retrieve List of Metadata from Datasets ingested into IonoDB. Constraints: [1] Time.Delta<=15 days

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036
products array (query)	-- ART DFT DOP
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station, product] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item

Run /IDB/IDATASETS

Add start date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-10T00:00:00*

Add end date in ISO timestamp format (time interval <= 15days), *e.g.: 2023-09-12T00:00:00*

Choose the desired Digisonde (URSI Code), *e.g.: AT138*

Choose the desired products, *e.g.: PNG, SAO*

Choose the desired sorting attributes (if nothing is chosen the default order is used)

Choose ascending or descending order of the output (if nothing is chosen the default order is used)

RUN

Download foF2 and hmF2 values for various Digisondes

Inputs (1)

/idb

[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]

Retrieve Paginated List of Serialized Dataset from SAO records ingested into IonoDB.

Inputs

[Cancel]

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036
characteristics array (query)	-- foF2 foF1 mD
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station] [Add string item]
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] [Add string item]
page integer (query)	1
size integer (query)	50

Add start date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-10T00:00:00*

Add end date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-12T00:00:00*

Choose the desired Digisondes (URSI Code), *e.g.: AT138, DB049, EB040*

Choose the desired values, *e.g.: foF2, hmF2 (phF2lyr)*

Choose the desired sorting attributes (if nothing is chosen the default order is used)

Choose ascending or descending order of the output (if nothing is chosen the default order is used)

50 results per page will be exported

RUN

[Run /IDB/SAO/PAGER]

Download foF2 and hmF2 values for various Digisondes

Inputs (2)

/idb

[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]
[Show/hide details]

Retrieve Paginated List of Serialized Dataset from SAO records ingested into IonoDB.

Inputs

[Cancel]

Name	Description
start string($date-time) (query)	2023-09-10T00:00:00
end string($date-time) (query)	2023-09-12T00:00:00
stations array (query)	AT138 DB049 EA036 EB040
characteristics array (query)	-- foF2 foF1 mD
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station] [Add string item]
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] [Add string item]
page integer (query)	1
size integer (query)	50

[Run /IDB/SAO/PAGER]

Download foF2 and hmF2 values for various Digisondes

Outputs (1)

Outputs

[Download]

You can download the results in JSON

```
{
  "items": [
    {
      "id": "0c7865ce-9139-58eb-a99d-2b7138130973",
      "dataset": {
        "id": "0c7865ce-9139-58eb-a99d-2b7138130973",
        "ursi_code": "AT138",
        "timestamp": "2023-09-10T00:00:00",
        "product_type": "SAO",
        "container": "AT138_2023253000000.SAO",
        "virtual_path": "noa/2023/253/AT138_2023253000000.SAO",
        "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/253/AT138_2023253000000.SAO"
      },
      "scaled": {
        "foF2": 6.195,
        "phF2lyr": 344.515
      }
    },
    {
      "id": "6b6bf7e9-e3c1-53f1-8315-d866758fee11",
      "dataset": {
        "id": "6b6bf7e9-e3c1-53f1-8315-d866758fee11",
        "ursi_code": "EB040",
        "timestamp": "2023-09-10T00:00:01",
        "product_type": "SAO",
        "container": "EB040_2023253000001.SAO",
        "virtual_path": "ebre/2023/253/EB040_2023253000001.SAO",
        "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/ebre/2023/253/EB040_2023253000001.SAO"
      },
      "scaled": {
        "foF2": 6.4,
        "phF2lyr": 356.355
      }
    },
```

foF2, hmF2 values for AT138 at 2023-09-10T00:00:00 & link to SAO file

foF2, hmF2 values for EB040 at 2023-09-10T00:00:01 & link to SAO file

```
    {
      "id": "d29c6de4-a261-536e-9a64-3abaa68ad452",
      "dataset": {
        "id": "d29c6de4-a261-536e-9a64-3abaa68ad452",
        "ursi_code": "DB049",
        "timestamp": "2023-09-10T01:20:02",
        "product_type": "SAO",
        "container": "DB049_2023253012002.SAO",
        "virtual_path": "dourbes/2023/253/DB049_2023253012002.SAO",
        "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/dourbes/2023/253/DB049_2023253012002.SAO"
      },
      "scaled": {
        "foF2": 5.15,
        "phF2lyr": 351.686
      }
    }
  ],
  "total": 1657,
  "page": 1,
  "size": 50,
  "pages": 34
}
```

foF2, hmF2 values for DB049 at 2023-09-10T01:20:02 & link to SAO file

Results are exported to 34 pages, page 1 is displayed here

Download foF2 and hmF2 values for various Digisondes

Inputs (3)

/idb

Show/hide details
Show/hide details
Show/hide details
Show/hide details
Show/hide details
Show/hide details

Retrieve Paginated List of Serialized Dataset from SAO records ingested into IonoDB.

Inputs

Cancel

Name	Description
start string($date-time) (query)	2023-09-10T00:00:00
end string($date-time) (query)	2023-09-12T00:00:00
stations array (query)	AT138 DB049 EA036 EB040
characteristics array (query)	-- foF2 foF1 mD
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item
page integer (query)	2
size integer (query)	50

Choose page 2 etc. (the desired of the 34 pages) to be exported, without changing any other field

Run /IDB/SAO/PAGER   Clear Outputs

RUN

Download foF2 and hmF2 values for various Digisondes

Outputs (2)

Outputs

[Download]

```
{
    "items": [
        {
            "id": "34ab2728-47f0-5dad-b6c9-a0782f9c6683",
            "dataset": {
                "id": "34ab2728-47f0-5dad-b6c9-a0782f9c6683",
                "ursi_code": "DB049",
                "timestamp": "2023-09-10T01:25:00",
                "product_type": "SAO",
                "container": "DB049_2023253012500.SAO",
                "virtual_path": "dourbes/2023/253/DB049_2023253012500.SAO",
                "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/dourbes/2023/253/DB049_2023253012500.SAO"
            },
            "scaled": {
                "foF2": 5.2,
                "phF2lyr": 356.831
            }
        },
        {
            "id": "fef91c16-2e61-5a4c-aed8-362532fa8273",
            "dataset": {
                "id": "fef91c16-2e61-5a4c-aed8-362532fa8273",
                "ursi_code": "EB040",
                "timestamp": "2023-09-10T01:25:01",
                "product_type": "SAO",
                "container": "EB040_2023253012501.SAO",
                "virtual_path": "ebre/2023/253/EB040_2023253012501.SAO",
                "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/ebre/2023/253/EB040_2023253012501.SAO"
            },
            "scaled": {
                "foF2": 6.55,
                "phF2lyr": 357.75
            }
        },
```

foF2, hmF2 values for DB049 at 2023-09-10T01:25:00 & link to SAO file

foF2, hmF2 values for EB040 at 2023-09-10T01:25:01 & link to SAO file

```
        {
            "id": "bfd5f058-622c-5ec7-98df-7b1642e4db18",
            "dataset": {
                "id": "bfd5f058-622c-5ec7-98df-7b1642e4db18",
                "ursi_code": "AT138",
                "timestamp": "2023-09-10T02:50:00",
                "product_type": "SAO",
                "container": "AT138_2023253025000.SAO",
                "virtual_path": "noa/2023/253/AT138_2023253025000.SAO",
                "uri_path": "https://electron.space.noa.gr/swnet_ionostream/api/v2/ionodb/noa/2023/253/AT138_2023253025000.SAO"
            },
            "scaled": {
                "foF2": 5.175,
                "phF2lyr": 280.303
            }
        }
    ],
    "total": 1657,
    "page": 2,
    "size": 50,
    "pages": 34
}
```

foF2, hmF2 values for AT138 at 2023-09-10T02:50:00 & link to SAO file

Results are exported to 34 pages, page 2 is displayed here

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Download foF2 and hmF2 values for various Digisondes

Inputs (3)

/idb

Show/hide details
Show/hide details
Show/hide details
Show/hide details
Show/hide details

In case you don't want to use the pager (not recommended), please use the previous endpoint.

Retrieve List of Serialized Dataset from SAO records ingested into IonoDB. Constraints: [1] Time.Delta<=15 days

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036
characteristics array (query)	-- foF2 foF1 mD
order_attrs array[string] (query)	Define sorting parameters &order: [timestamp, station] Add string item
order_by array[string] (query)	Define sortby for order_attrs: [asc,desc] Add string item

Run /IDB/SAO

Add start date in ISO timestamp format (YYYY-MM-DDThh:mm:ss), *e.g.: 2023-09-10T00:00:00*

Add end date in ISO timestamp format (time interval <= 15days), *e.g.: 2023-09-12T00:00:00*

Choose the desired Digisondes (URSI Code), *e.g.: AT138, DB049, EB040*

Choose the desired values, *e.g.: foF2, hmF2 (phF2lyr)*

Choose the desired sorting attributes (if nothing is chosen the default order is displayed)

Choose ascending or descending order of the output (if nothing is chosen the default order is displayed)

RUN

Check data availability for a specific Digisonde

Inputs (2)

Available products per station

[/idb](#)

Show/hide details

Show/hide details

Retrieve List of Metadata from Distinct Active Stations over a given interval.

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036

Run /IDB/IPRODUCTS

Temporal availability of data per station

[/idb](#)

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Show/hide details

Retrieve temporal sao range statistics per station

Inputs

Cancel

Name	Description
start string($date-time) (query)	start
end string($date-time) (query)	end
stations array (query)	-- AT138 DB049 EA036

Run /IDB/SAO/RANGESTATS

Check data availability for a specific Digisonde

Outputs (1)

Available products per station

Outputs

[Download]

```
[
    "ART",
    "DFT",
    "DOP",
    "DRG",
    "DVL",
    "ION",
    "PNG",
    "RSF",
    "SAO",
    "SBF",
    "SKY",
    "TLT",
    "TMP",
    "TXT",
    "XML"
]
```

Available products for AT138 (ART, DFT, DOP, DRG, DVL, ION, PNG, RSF, SAO, SBF, SKY, TLT, TMP, TXT, XML)

Temporal availability of data per station

Outputs

[Download]

```
[
    {
        "code": "AT138",
        "datemin": "2012-01-01T00:00:00",
        "datemax": "2023-09-12T15:10:00"
    }
]
```

Temporal availability of data for AT138 (from 2012-01-01T00:00:00 till now)

Thank you for your attention!

WEB: **https://www.pithia-nrf.eu**