

SISPEC:2021 ISO 19115 metadata profile - XML encoding

This document defines the technical specifications required for describing hyperspectral measurements of snow surface compliant to guidelines listed by field spectroscopy and snow research communities. This document is not a reviewed standard and may not be referred to as a recognized standard. It is subject to change without notice. However, this document is a draft in preparation for official reviews by international organizations on this particular technology topic. Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Document type: standard candidate draft
language:English

Contents

1. Changelog.....	2
2. Introduction.....	2
3. XML encoding definition	2
3.1 SISPEC.xsd	2
3.2 Schematron rules for the SISPEC profile.....	3
3.3 SISPEC code list catalog.....	4
3.4 SISPEC extension information.....	4
3.5 Sample SISPEC metadata document.....	4
3.6 INSPIRE validation.....	37
4. References	37

i. Abstract

The SISPEC XML encoding specification is a summary of conventions that supports efficient exchange of hyperspectral measurements performed on snow surfaces.

ii. Keywords

The following are keywords to be used by search engines and document catalogues: snow, ice, hyperspectral measurements, spectral signature, ISO 19115.

iii. Author organizations

The following institutes of the National Research Council of Italy (CNR) prepared this document: Institute of Atmospheric Pollution Research (IIA) and the Institute of Polar Sciences (ISP).

iv. Authors

All questions regarding this document should be directed to the editor or the authors:

Name	Affiliation	email
Enrico Boldrini	CNR-IIA	enrico.boldrini@cnr.it
Roberto Salzano	CNR-IIA	roberto.salzano@cnr.it
Rosamaria Salvatori	CNR-ISP	rosamaria.salvatori@cnr.it

1. Changelog

Date	Editors	Description
10/6/2021	Boldrini E., Salzano R., Salvatori R.	First release

2. Introduction

This document provides a ISO/TS 19115-3:2016 compliant encoding for the SISPEC:2021 ISO 19115 metadata profile. The encoding is based on the XML schema implementation defined in ISO 19115-3, plus newly defined extensions. Schematron rules were defined in addition to XML Schema to express XML constraints not enforceable by the XML schema.

3. XML encoding definition

The XML schema used is exactly the one defined in ISO/TS 19115-3, plus specific extensions/restrictions. In particular new codelists elements as well as the new metadata classes documented in the SISPEC profile document have been implemented in the XML schema.

Additionally, a set of Schematron rules have been defined to enforce SISPEC profile constraints that are not enforceable with XML Schema alone.

The SISPEC XML schema is defined in this section. The new sispec namespace (<https://niveos.cnr.it/SISPEC/1.0>, prefixed as sispec) contains the new metadata classes and codelists defined in the SISPEC profile document. The schema also imports the namespaces from the ISO 19115-3 schema.

3.1 SISPEC.xsd

The SISPEC XML schema, available at <https://essi-lab.eu/schemas/SISPEC/SISPEC.xsd> includes all the implemented metadata classes from the sispec namespace:

- SISPEC_EnvironmentalRecord
- SISPEC_SnowHardness
- SISPEC_SnowSurfaceRoughness
- SISPEC_WetnessIndexOfSurfaceSnow
- SISPEC_DescriptiveCondition
- SISPEC_QuantitativeCondition
- SISPEC_Abstract_SnowGrain
- SISPEC_MachineMadeSnow
- SISPEC_PrecipitationParticles
- SISPEC_DecomposingAndFragmentedPrecipitationParticles
- SISPEC_RoundedGrains

- SISPEC_FacetedCrystals
- SISPEC_DepthHoar
- SISPEC_SurfaceHoar
- SISPEC_MeltForms
- SISPEC_IceFormations

And also the SISPEC codelists:

- SISPEC_ConditionCode
- SISPEC_HardnessCode
- SISPEC_SnowSurfaceRoughnessCode
- SISPEC_WetnessIndexOfSurfaceSnowCode
- SISPEC_PrecipitationParticlesCode
- SISPEC_FacetedCrystalsCode
- SISPEC_MachineMadeSnowCode
- SISPEC_MeltFormsCode
- SISPEC_DecomposingAndFragmentedPrecipitationParticlesCode
- SISPEC_IceFormationsCode
- SISPEC_RoundedGrainsCode
- SISPEC_SurfaceHoarCode
- SISPEC_DepthHoarCode

3.2 Schematron rules for the SISPEC profile

SISPEC schematron rules are available at <https://essi-lab.eu/schemas/SISPEC/SISPEC.sch>

Schematron rules enforce the following constraints, as well as extensions/restrictions:

- Restricted obligation (e.g. optional ISO 19115 elements that change to mandatory in the SISPEC profile)
 - Metadata scope
 - Metadata language
 - Metadata responsible party with role “point of contact”
 - Metadata date
 - Reference system info code
 - Dataset title
 - Dataset creation date
 - Dataset identifier
 - Dataset responsible party with role “originator”
 - Spatial representation type
 - Distribution format
 - Spatial resolution
 - Topic category
 - Dataset extent, geographic element (BBOX)
 - Dataset extent, temporal element
 - Thesaurus date
 - Limitations on public access
 - Conditions applying to access and use
 - Dataset language
 - Dataset character encoding

- Dataset lineage
- Dataset attribute description
- Instrument name
- Platform name
- Instrument properties
- Snow grain percentage
- Metadata extension information
- Restricted domain:
 - Instrument properties: from Any to NCML description
 - Bounding box domain (ISO 19115)
 - Bounding box precision (INSPIRE)
- Codelists validation (as a subcase, validation of codelists is conveniently checked against the linked online codelist catalogues)
- Enforce a correct use of null elements (these are not permitted, unless in case of optional elements along with a nilReason or xlink pointers)
- Additional constraints from:
 - INSPIRE:
 - One keyword from GEMET thesaurus must be documented
 - INSPIRE conformance must be documented
 - SISPEC:
 - The sum of grain type percentages must not exceed 100
 - The “otherCondition” property holding an additional condition name must be documented if and only if condition code is documented as “other”

3.3 SISPEC code list catalog

SISPEC code lists catalog is available at <https://essi-lab.eu/schemas/SISPEC/SISPEC-codelists.xml>

3.4 SISPEC extension information

SISPEC extension information is available here: <https://essi-lab.eu/schemas/SISPEC/SISPEC-extension-information.xml>

3.5 Sample SISPEC metadata document

The following sample SISPEC metadata document is meant to be completed as much as possible, containing all the optional elements that can be documented by this profile.

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-model href="https://essi-lab.eu/schemas/SISPEC/SISPEC.sch" type="application/xml"
schematypens="http://purl.oclc.org/dsdl/schematron"?>
<mac:MI_Metadata xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/2.0"
  xmlns:cat="http://standards.iso.org/iso/19115/-3/cat/1.0"
  xmlns:cit="http://standards.iso.org/iso/19115/-3/cit/2.0"
```

```

xmlns:exslt="http://exslt.org/common"
xmlns:gco="http://standards.iso.org/iso/19115/-3/gco/1.0"
xmlns:gcx="http://standards.iso.org/iso/19115/-3/gcx/1.0"
xmlns:gex="http://standards.iso.org/iso/19115/-3/gex/1.0"
xmlns:gmd="http://www.isotc211.org/2005/gmd"
xmlns:gmi="http://www.isotc211.org/2005/gmi"
xmlns:gml="http://www.opengis.net/gml/3.2"
xmlns:gml32="http://www.opengis.net/gml/3.2"
xmlns:gmx="http://www.isotc211.org/2005/gmx"
xmlns:gsr="http://www.isotc211.org/2005/gsr"
xmlns:gss="http://www.isotc211.org/2005/gss"
xmlns:gts="http://www.isotc211.org/2005/gts"
xmlns:lan="http://standards.iso.org/iso/19115/-3/lan/1.0"
xmlns:mai="http://standards.iso.org/iso/19115/-3/mai/1.0"
xmlns:mas="http://standards.iso.org/iso/19115/-3/mas/1.0"
xmlns:mcc="http://standards.iso.org/iso/19115/-3/mcc/1.0"
xmlns:mco="http://standards.iso.org/iso/19115/-3/mco/1.0"
xmlns:mda="http://standards.iso.org/iso/19115/-3/mda/1.0"
xmlns:mdb="http://standards.iso.org/iso/19115/-3/mdb/2.0"
xmlns:mdq="http://standards.iso.org/iso/19157/-2/mdq/1.0"
xmlns:mds="http://standards.iso.org/iso/19115/-3/mds/2.0"
xmlns:mdt="http://standards.iso.org/iso/19115/-3/mdt/2.0"
xmlns:mex="http://standards.iso.org/iso/19115/-3/mex/1.0"
xmlns:mic="http://standards.iso.org/iso/19115/-3/mic/1.0"
xmlns:mil="http://standards.iso.org/iso/19115/-3/mil/1.0"
xmlns:mmi="http://standards.iso.org/iso/19115/-3/mmi/1.0"
xmlns:mpc="http://standards.iso.org/iso/19115/-3/mpc/1.0"
xmlns:mrc="http://standards.iso.org/iso/19115/-3/mrc/2.0"
xmlns:mrd="http://standards.iso.org/iso/19115/-3/mrd/1.0"
xmlns:mri="http://standards.iso.org/iso/19115/-3/mri/1.0"
xmlns:mrl="http://standards.iso.org/iso/19115/-3/mrl/2.0"
xmlns:mrs="http://standards.iso.org/iso/19115/-3/mrs/1.0"
xmlns:msr="http://standards.iso.org/iso/19115/-3/msr/2.0"
xmlns:nc="http://www.unidata.ucar.edu/namespaces/netcdf/ncml-2.2"
xmlns:sispec="https://niveos.cnr.it/SISPEC/1.0"
xmlns:srv="http://standards.iso.org/iso/19115/-3/srv/2.0"
xmlns:srv2="http://standards.iso.org/iso/19115/-3/srv/2.0"
xmlns:xd="http://www.oxygenxml.com/ns/doc/xsl"
xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="https://niveos.cnr.it/SISPEC/1.0 https://essi-
lab.eu/schemas/SISPEC/SISPEC.xsd">
  <mdb:metadataIdentifier>
    <mcc:MD_Identifier>
      <mcc:authority>
        <cit:CI_Citation>
          <cit:title>

```

```

        <gco:CharacterString>National Research Council of Italy</gco:CharacterString>
      </cit:title>
    </cit:CI_Citation>
  </mcc:authority>
<mcc:code>

<gco:CharacterString>https://niveos.cnr.it/SISpec/metadata/332b.xml</gco:CharacterString>
  </mcc:code>
</mcc:MD_Identifier>
</mdb:metadataIdentifier>
<mdb:defaultLocale>
  <lan:PT_Locale>
    <lan:language>
      <lan:LanguageCode codeList="" codeListValue="eng">English</lan:LanguageCode>
    </lan:language>
    <lan:characterEncoding>
      <lan:MD_CharacterSetCode codeList=""
codeListValue="utf8">utf8</lan:MD_CharacterSetCode>
    </lan:characterEncoding>
  </lan:PT_Locale>
</mdb:defaultLocale>
<mdb:metadataScope>
  <mdb:MD_MetadataScope>
    <mdb:resourceScope>
      <mcc:MD_ScopeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_ScopeCode"
      codeListValue="dataset">dataset</mcc:MD_ScopeCode>
    </mdb:resourceScope>
  </mdb:MD_MetadataScope>
</mdb:metadataScope>
<mdb:contact>
  <cit:CI_Responsibility>
    <cit:role>
      <cit:CI_RoleCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_RoleCode"
      codeListValue="pointOfContact">pointOfContact</cit:CI_RoleCode>
    </cit:role>
    <cit:party>
      <cit:CI_Organisation>
        <cit:name>
          <gco:CharacterString>National Research Council of Italy</gco:CharacterString>
        </cit:name>
        <cit:contactInfo>
          <cit:CI_Contact>
            <cit:address>
              <cit:CI_Address>

```

```

        <cit:electronicMailAddress>
          <gco:CharacterString>info@niveos.cnr.it</gco:CharacterString>
        </cit:electronicMailAddress>
      </cit:CI_Address>
    </cit:address>
  </cit:CI_Contact>
</cit:contactInfo>
<cit:individual>
  <cit:CI_Individual>
    <cit:name>
      <gco:CharacterString>Roberto Salzano</gco:CharacterString>
    </cit:name>
  </cit:CI_Individual>
</cit:individual>
</cit:CI_Organisation>
</cit:party>
</cit:CI_Responsibility>
</mdb:contact>
<mdb:dateInfo>
  <cit:CI_Date>
    <cit:date>
      <gco:Date>2021-05-03</gco:Date>
    </cit:date>
    <cit:dateType>
      <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
        codeListValue="revision">revision</cit:CI_DateTypeCode>
      </cit:dateType>
    </cit:CI_Date>
  </mdb:dateInfo>
<mdb:spatialRepresentationInfo>
  <msr:MD_GridSpatialRepresentation>
    <msr:numberOfDimensions>
      <gco:Integer>3</gco:Integer>
    </msr:numberOfDimensions>
    <msr:axisDimensionProperties>
      <msr:MD_Dimension>
        <msr:dimensionName>
          <msr:MD_DimensionNameTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_DimensionNameTypeCode"
            codeListValue="row">row</msr:MD_DimensionNameTypeCode>
        </msr:dimensionName>
        <msr:dimensionSize>
          <gco:Integer>1</gco:Integer>
        </msr:dimensionSize>
      </msr:MD_Dimension>
    </msr:axisDimensionProperties>
  </msr:MD_GridSpatialRepresentation>
</mdb:spatialRepresentationInfo>

```



```

    <msr:resolution>
      <gco:Measure uom="meters">3</gco:Measure>
    </msr:resolution>
    <msr:dimensionTitle>
      <gco:CharacterString>Latitude</gco:CharacterString>
    </msr:dimensionTitle>
    <msr:dimensionDescription>
      <gco:CharacterString>Latitude is positive northward; its units of degree_north (or
equivalent) indicate this explicitly. In a latitude-longitude system defined with respect to a
rotated North Pole, the standard name of grid_latitude should be used instead of latitude.
Grid latitude is positive in the grid-northward direction, but its units should be plain
degree.</gco:CharacterString>
    </msr:dimensionDescription>
  </msr:MD_Dimension>
</msr:axisDimensionProperties>
<msr:axisDimensionProperties>
  <msr:MD_Dimension>
    <msr:dimensionName>
      <msr:MD_DimensionNameTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_DimensionNameTypeCode"
codeListValue="column">column</msr:MD_DimensionNameTypeCode>
    </msr:dimensionName>
    <msr:dimensionSize>
      <gco:Integer>1</gco:Integer>
    </msr:dimensionSize>
    <msr:resolution>
      <gco:Measure uom="meters">3</gco:Measure>
    </msr:resolution>
    <msr:dimensionTitle>
      <gco:CharacterString>Longitude</gco:CharacterString>
    </msr:dimensionTitle>
    <msr:dimensionDescription>
      <gco:CharacterString>Longitude is positive eastward; its units of degree_east (or
equivalent) indicate this explicitly. In a latitude-longitude system defined with respect to a
rotated North Pole, the standard name of grid_longitude should be used instead of longitude.
Grid longitude is positive in the grid-eastward direction, but its units should be plain
degree.</gco:CharacterString>
    </msr:dimensionDescription>
  </msr:MD_Dimension>
</msr:axisDimensionProperties>
<msr:axisDimensionProperties>
  <msr:MD_Dimension>
    <msr:dimensionName>
      <msr:MD_DimensionNameTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_DimensionNameTypeCode"

```

```

codeListValue="vertical">vertical</msr:MD_DimensionNameTypeCode>
  </msr:dimensionName>
  <msr:dimensionSize>
    <gco:Integer>1</gco:Integer>
  </msr:dimensionSize>
  <msr:resolution>
    <gco:Measure uom="meters">10</gco:Measure>
  </msr:resolution>
  <msr:dimensionTitle>
    <gco:CharacterString>Altitude</gco:CharacterString>
  </msr:dimensionTitle>
  <msr:dimensionDescription>
    <gco:CharacterString>Longitude is positive eastward; its units of degree_east (or
equivalent) indicate this explicitly. In a latitude-longitude system defined with respect to a
rotated North Pole, the standard name of grid_longitude should be used instead of longitude.
Grid longitude is positive in the grid-eastward direction, but its units should be plain
degree.</gco:CharacterString>
  </msr:dimensionDescription>
</msr:MD_Dimension>
</msr:axisDimensionProperties>
<msr:axisDimensionProperties>
  <msr:MD_Dimension>
    <msr:dimensionName>
      <msr:MD_DimensionNameTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_DimensionNameTypeCode"

```

```

codeListValue="time">time</msr:MD_DimensionNameTypeCode>
  </msr:dimensionName>
  <msr:dimensionSize>
    <gco:Integer>1</gco:Integer>
  </msr:dimensionSize>
  <msr:resolution>
    <gco:Measure uom="S">1</gco:Measure>
  </msr:resolution>
  <msr:dimensionTitle>
    <gco:CharacterString>Time</gco:CharacterString>
  </msr:dimensionTitle>
  <msr:dimensionDescription>
    <gco:CharacterString>Time of the measurement</gco:CharacterString>
  </msr:dimensionDescription>
</msr:MD_Dimension>
</msr:axisDimensionProperties>
<msr:cellGeometry>
  <msr:MD_CellGeometryCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_CellGeometryCode"

```

```

                codeListValue="point">point</msr:MD_CellGeometryCode>
            </msr:cellGeometry>
            <msr:transformationParameterAvailability>
                <gco:Boolean>>false</gco:Boolean>
            </msr:transformationParameterAvailability>
        </msr:MD_GridSpatialRepresentation>
    </mdb:spatialRepresentationInfo>
    <mdb:referenceSystemInfo>
        <mrs:MD_ReferenceSystem>
            <mrs:referenceSystemIdentifier>
                <mcc:MD_Identifier>
                    <mcc:code>
                        <gcx:Anchor
xlink:href="http://www.opengis.net/def/crs/EPSG/8.5/4979">http://www.opengis.net/def/crs/E
PSG/8.5/4979</gcx:Anchor>
                    </mcc:code>
                </mcc:MD_Identifier>
            </mrs:referenceSystemIdentifier>
        </mrs:MD_ReferenceSystem>
    </mdb:referenceSystemInfo>
    <mdb:metadataExtensionInfo xlink:href="https://essi-lab.eu/schemas/SISPEC/SISPEC-
extension-information.xml"/>
    <mdb:identificationInfo>
        <mri:MD_DataIdentification>
            <mri:citation>
                <cit:CI_Citation>
                    <cit:title>
                        <gco:CharacterString>Spectral reflectance obtained in-situ at MT. Abbot
(Antarctica) in November 1998</gco:CharacterString>
                    </cit:title>
                    <cit:date>
                        <cit:CI_Date>
                            <cit:date>
                                <gco>Date>2021-05-20</gco>Date>
                            </cit:date>
                            <cit:dateType>
                                <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
                                codeListValue="creation">creation</cit:CI_DateTypeCode>
                            </cit:dateType>
                        </cit:CI_Date>
                    </cit:date>
                    <cit:date>
                        <cit:CI_Date>
                            <cit:date>
                                <gco>Date>2021-05-03</gco>Date>
                            </cit:date>

```

```

        <cit:dateType>
            <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
codeListValue="publication">publication</cit:CI_DateTypeCode>
            </cit:dateType>
        </cit:CI_Date>
    </cit:date>
    <cit:edition>
        <gco:CharacterString>1.0</gco:CharacterString>
    </cit:edition>
    <cit:identifier>
        <mcc:MD_Identifier>
            <mcc:authority>
                <cit:CI_Citation>
                    <cit:title>
                        <gco:CharacterString>International DOI
Foundation</gco:CharacterString>
                    </cit:title>
                </cit:CI_Citation>
            </mcc:authority>
        </mcc:code>

<gco:CharacterString>https://doi.org/10.1109/5.77107343</gco:CharacterString>
        </mcc:code>
    </mcc:MD_Identifier>
</cit:identifier>
</cit:CI_Citation>
</mri:citation>
<mri:abstract>
    <gco:CharacterString>SISpec is a database containing spectroradiometric, snow and
ancillary (environmental and meteorological) data acquired in polar environments. The
project is the result of the co-operation of different expertise, and its main objective is to
contribute to the knowledge of the interaction between microphysics characteristic of the
snow cover and its reflection properties of the solar incident radiation and to study glacial
environment and particularly to monitor the snow/ice covers by multispectral remote sensing
data. Field surveys were performed in Antarctica, in the region where the Italian research
station of Terra Nova Bay is located, the climatic characteristics and the low human impact
allow to study snow/ice surfaces without impurities and with different characteristics with
respect to those of the Arctic and the Alpine regions, where seasonal melting of the snow
cover occur</gco:CharacterString>
</mri:abstract>
<mri:pointOfContact>
    <cit:CI_Responsibility>
        <cit:role>

```

```

        <cit:CI_RoleCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_RoleCode"
            codeListValue="originator">originator</cit:CI_RoleCode>
    </cit:role>
    <cit:party>
        <cit:CI_Organisation>
            <cit:name>
                <gco:CharacterString>National Research Council of
Italy</gco:CharacterString>
            </cit:name>
            <cit:contactInfo>
                <cit:CI_Contact>
                    <cit:address>
                        <cit:CI_Address>
                            <cit:electronicMailAddress>
                                <gco:CharacterString>info@niveos.cnr.it</gco:CharacterString>
                            </cit:electronicMailAddress>
                        </cit:CI_Address>
                    </cit:address>
                    <cit:onlineResource>
                        <cit:CI_OnlineResource>
                            <cit:linkage>
                                <gco:CharacterString>www.niveos.cnr.it</gco:CharacterString>
                            </cit:linkage>
                        </cit:CI_OnlineResource>
                    </cit:onlineResource>
                </cit:CI_Contact>
            </cit:contactInfo>
            <cit:individual xlink:href="#ROSSAL"/>
            <cit:individual xlink:href="#ROBSAL"/>
        </cit:CI_Organisation>
    </cit:party>
</cit:CI_Responsibility>
</mri:pointOfContact>
<mri:pointOfContact>
    <cit:CI_Responsibility>
        <cit:role>
            <cit:CI_RoleCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_RoleCode"
                codeListValue="originator">originator</cit:CI_RoleCode>
        </cit:role>
        <cit:party>
            <cit:CI_Individual id="ROBSAL">
                <cit:name>
                    <gco:CharacterString>Roberto Salzano</gco:CharacterString>
                </cit:name>
            </cit:CI_Individual id="ROBSAL">
        </cit:party>
    </cit:CI_Responsibility>
</mri:pointOfContact>

```

```

    <cit:contactInfo>
      <cit:CI_Contact>
        <cit:address>
          <cit:CI_Address>
            <cit:electronicMailAddress>
              <gco:CharacterString>info@niveos.cnr.it</gco:CharacterString>
            </cit:electronicMailAddress>
          </cit:CI_Address>
        </cit:address>
      </cit:CI_Contact>
    </cit:contactInfo>
  </cit:CI_Individual>
</cit:party>
</cit:CI_Responsibility>
</mri:pointOfContact>
<mri:pointOfContact>
  <cit:CI_Responsibility>
    <cit:role>
      <cit:CI_RoleCode

```

codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_RoleCode"

codeListValue="principalInvestigator">principalInvestigator</cit:CI_RoleCode>

```

    </cit:role>
  </cit:party>
  <cit:CI_Individual id="ROSSAL">
    <cit:name>
      <gco:CharacterString>Rosamaria Salvatori</gco:CharacterString>
    </cit:name>
    <cit:contactInfo>
      <cit:CI_Contact>
        <cit:address>
          <cit:CI_Address>
            <cit:electronicMailAddress>
              <gco:CharacterString>info@niveos.cnr.it</gco:CharacterString>
            </cit:electronicMailAddress>
          </cit:CI_Address>
        </cit:address>
      </cit:CI_Contact>
    </cit:contactInfo>
  </cit:CI_Individual>
</cit:party>
</cit:CI_Responsibility>
</mri:pointOfContact>
<mri:spatialRepresentationType>
  <mcc:MD_SpatialRepresentationTypeCode

```

codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_SpatialRepresentationTypeCode"

```

codeListValue="grid">grid</mcc:MD_SpatialRepresentationTypeCode>
  </mri:spatialRepresentationType>
  <mri:spatialResolution>
    <mri:MD_Resolution>
      <mri:distance>
        <gco:Distance uom="meters">3</gco:Distance>
      </mri:distance>
    </mri:MD_Resolution>
  </mri:spatialResolution>
  <mri:spatialResolution>
    <mri:MD_Resolution>
      <mri:distance>
        <gco:Distance uom="meters">3</gco:Distance>
      </mri:distance>
    </mri:MD_Resolution>
  </mri:spatialResolution>
  <mri:topicCategory>
    <mri:MD_TopicCategoryCode>environment</mri:MD_TopicCategoryCode>
  </mri:topicCategory>
  <mri:extent>
    <gex:EX_Extent>
      <gex:geographicElement>
        <gex:EX_GeographicBoundingBox>
          <gex:westBoundLongitude>
            <gco:Decimal>163.5303</gco:Decimal>
          </gex:westBoundLongitude>
          <gex:eastBoundLongitude>
            <gco:Decimal>163.5303</gco:Decimal>
          </gex:eastBoundLongitude>
          <gex:southBoundLatitude>
            <gco:Decimal>-74.7005</gco:Decimal>
          </gex:southBoundLatitude>
          <gex:northBoundLatitude>
            <gco:Decimal>-74.7005</gco:Decimal>
          </gex:northBoundLatitude>
        </gex:EX_GeographicBoundingBox>
      </gex:geographicElement>
      <gex:temporalElement>
        <gex:EX_TemporalExtent>
          <gex:extent>
            <gml:TimePeriod gml:id="tp1">
              <gml:beginPosition>1998-11-19T02:10:00Z</gml:beginPosition>
              <gml:endPosition>1998-11-19T02:10:00Z</gml:endPosition>
            </gml:TimePeriod>
          </gex:extent>
        </gex:EX_TemporalExtent>
      </gex:temporalElement>
    </mri:extent>
  </mri:extent>

```

```

    <gex:verticalElement>
      <gex:EX_VerticalExtent>
        <gex:minimumValue>
          <gco:Real>650</gco:Real>
        </gex:minimumValue>
        <gex:maximumValue>
          <gco:Real>650</gco:Real>
        </gex:maximumValue>
        <gex:verticalCRSId>
          <mrs:MD_ReferenceSystem>
            <mrs:referenceSystemIdentifier>
              <mcc:MD_Identifier>
                <mcc:code>
                  <gco:CharacterString>EPSG:4979</gco:CharacterString>
                </mcc:code>
              </mcc:MD_Identifier>
            </mrs:referenceSystemIdentifier>
          </mrs:MD_ReferenceSystem>
        </gex:verticalCRSId>
      </gex:EX_VerticalExtent>
    </gex:verticalElement>
  </gex:EX_Extent>
</mri:extent>
<mri:additionalDocumentation>
  <cit:CI_Citation>
    <cit:title>
      <gco:CharacterString>Casacchia, R; Salvatori, R; Cagnati, A; Valt, M; Ghergo, S
2002. Field reflectance of snow/ice covers at Terra Nova Bay, Antarctica. Int. J. Remote
Sensing vol.23, no.21, 4563-4667
DOI:10.1080/01431160110113863</gco:CharacterString>
    </cit:title>
  </cit:CI_Citation>
</mri:additionalDocumentation>
<mri:resourceMaintenance>
  <mmi:MD_MaintenanceInformation>
    <mmi:maintenanceAndUpdateFrequency>
      <mmi:MD_MaintenanceFrequencyCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_MaintenanceFrequencyCode"
      codeListValue="Complete ">Complete
    </mmi:MD_MaintenanceFrequencyCode>
  </mmi:maintenanceAndUpdateFrequency>
</mmi:MD_MaintenanceInformation>
</mri:resourceMaintenance>
<mri:graphicOverview>
  <mcc:MD_BrowseGraphic>
    <mcc:fileName>

```



```

        <gco:CharacterString>spectrum of the 332b field
measurement</gco:CharacterString>
        </mcc:fileName>
        <mcc:fileDescription>
        <gco:CharacterString>the file shows the spectral reflectance between 350 and
2500 nm</gco:CharacterString>
        </mcc:fileDescription>
        <mcc:fileType>
        <gco:CharacterString>spectrum</gco:CharacterString>
        </mcc:fileType>
        <mcc:linkage>
        <cit:CI_OnlineResource>
        <cit:linkage>

<gco:CharacterString>https://niveos.cnr.it/SISpec/spectrum/332b.jpg</gco:CharacterString>
        </cit:linkage>
        </cit:CI_OnlineResource>
        </mcc:linkage>
        </mcc:MD_BrowseGraphic>
</mri:graphicOverview>
<mri:graphicOverview>
        <mcc:MD_BrowseGraphic>
        <mcc:fileName>
        <gco:CharacterString>landscape view around the 332b
site</gco:CharacterString>
        </mcc:fileName>
        <mcc:fileDescription>
        <gco:CharacterString>Gently waved surface on the higher part of the
plateau</gco:CharacterString>
        </mcc:fileDescription>
        <mcc:fileType>
        <gco:CharacterString>environment</gco:CharacterString>
        </mcc:fileType>
        <mcc:linkage>
        <cit:CI_OnlineResource>
        <cit:linkage>

<gco:CharacterString>https://niveos.cnr.it/SISpec/environment/332b.jpg</gco:CharacterStrin
g>
        </cit:linkage>
        </cit:CI_OnlineResource>
        </mcc:linkage>
        </mcc:MD_BrowseGraphic>
</mri:graphicOverview>
<mri:graphicOverview>
        <mcc:MD_BrowseGraphic>
        <mcc:fileName>

```

```

    <gco:CharacterString>surface condition close to the 332b
site</gco:CharacterString>
    </mcc:fileName>
    <mcc:fileDescription>
    <gco:CharacterString>Decomposing and fragmented precipitation particles
(DFdc</gco:CharacterString>
    </mcc:fileDescription>
    <mcc:fileType>
    <gco:CharacterString>target</gco:CharacterString>
    </mcc:fileType>
    <mcc:linkage>
    <cit:CI_OnlineResource>
    <cit:linkage>

<gco:CharacterString>https://niveos.cnr.it/SISpec/target/332b.jpg</gco:CharacterString>
    </cit:linkage>
    </cit:CI_OnlineResource>
    </mcc:linkage>
    </mcc:MD_BrowseGraphic>
</mri:graphicOverview>
<mri:graphicOverview>
    <mcc:MD_BrowseGraphic>
    <mcc:fileName>
    <gco:CharacterString>setup at the 332b site</gco:CharacterString>
    </mcc:fileName>
    <mcc:fileDescription>
    <gco:CharacterString>2.0 mm</gco:CharacterString>
    </mcc:fileDescription>
    <mcc:fileType>
    <gco:CharacterString>sampling</gco:CharacterString>
    </mcc:fileType>
    <mcc:linkage>
    <cit:CI_OnlineResource>
    <cit:linkage>

<gco:CharacterString>https://niveos.cnr.it/SISpec/sampling/332b.jpg</gco:CharacterString>
    </cit:linkage>
    </cit:CI_OnlineResource>
    </mcc:linkage>
    </mcc:MD_BrowseGraphic>
</mri:graphicOverview>
<mri:graphicOverview>
    <mcc:MD_BrowseGraphic>
    <mcc:fileName>
    <gco:CharacterString>sky condition during the 332b
measurements</gco:CharacterString>
    </mcc:fileName>
    <mcc:fileDescription>
```

```

        <gco:CharacterString>60% and DFbk</gco:CharacterString>
    </mcc:fileDescription>
    <mcc:fileType>
        <gco:CharacterString>sky</gco:CharacterString>
    </mcc:fileType>
    <mcc:linkage>
        <cit:CI_OnlineResource>
            <cit:linkage>
                <gco:CharacterString>https://niveos.cnr.it/SISpec/sky/332b.jpg</gco:CharacterString>
            </cit:linkage>
        </cit:CI_OnlineResource>
    </mcc:linkage>
</mcc:MD_BrowseGraphic>
</mri:graphicOverview>
<mri:descriptiveKeywords>
    <mri:MD_Keywords>
        <mri:keyword>
            <gco:CharacterString>snow</gco:CharacterString>
        </mri:keyword>
        <mri:keyword>
            <gco:CharacterString>solar radiation</gco:CharacterString>
        </mri:keyword>
    </mri:thesaurusName>
    <cit:CI_Citation>
        <cit:title>
            <gco:CharacterString>GEneral Multilingual Environmental
Thesaurus</gco:CharacterString>
        </cit:title>
        <cit:date>
            <cit:CI_Date>
                <cit:date>
                    <gco>Date>2021-01-21</gco>Date>
                </cit:date>
                <cit:dateType>
                    <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
                    </cit:CI_DateTypeCode>
                    <cit:dateTypeValue="publication">publication</cit:CI_DateTypeCode>
                </cit:dateType>
            </cit:CI_Date>
        </cit:date>
    </cit:CI_Citation>
</mri:thesaurusName>
</mri:MD_Keywords>
</mri:descriptiveKeywords>
<mri:descriptiveKeywords>

```

```
<mri:MD_Keywords>
  <mri:keyword>
    <gcx:Anchor xlink:href="http://inspire.ec.europa.eu/theme/lc">Land
cover</gcx:Anchor>
  </mri:keyword>
  <mri:thesaurusName>
    <cit:CI_Citation>
      <cit:title>
        <gco:CharacterString>GEMET - INSPIRE themes, version
1.0</gco:CharacterString>
      </cit:title>
      <cit:date>
        <cit:CI_Date>
          <cit:date>
            <gco:Date>2008-06-01</gco:Date>
          </cit:date>
          <cit:dateType>
            <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
codeListValue="publication">publication</cit:CI_DateTypeCode>
          </cit:dateType>
        </cit:CI_Date>
      </cit:date>
    </cit:CI_Citation>
  </mri:thesaurusName>
</mri:MD_Keywords>
</mri:descriptiveKeywords>
<mri:descriptiveKeywords>
  <mri:MD_Keywords>
    <mri:keyword>
      <gco:CharacterString>spectral reflectance</gco:CharacterString>
    </mri:keyword>
    <mri:keyword>
      <gco:CharacterString>grain shape</gco:CharacterString>
    </mri:keyword>
  <mri:thesaurusName>
    <cit:CI_Citation>
      <cit:title>
        <gco:CharacterString>Thesaurus on Snow and Ice</gco:CharacterString>
      </cit:title>
      <cit:date>
        <cit:CI_Date>
          <cit:date>
            <gco:Date>2020-06-07</gco:Date>
          </cit:date>
          <cit:dateType>
```

```
                <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
```

```
codeListValue="publication">publication</cit:CI_DateTypeCode>
```

```
                </cit:dateType>
                </cit:CI_Date>
            </cit:date>
        </cit:CI_Citation>
    </mri:thesaurusName>
</mri:MD_Keywords>
</mri:descriptiveKeywords>
<mri:resourceConstraints>
    <mco:MD_LegalConstraints>
        <mco:accessConstraints>
            <mco:MD_RestrictionCode
```

```
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_RestrictionCode"
```

```
codeListValue="otherRestrictions">otherRestrictions</mco:MD_RestrictionCode>
```

```
                </mco:accessConstraints>
            <mco:otherConstraints>
                <gcx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-
codelist/LimitationsOnPublicAccess/noLimitations"/>
            </mco:otherConstraints>
        </mco:MD_LegalConstraints>
    </mri:resourceConstraints>
</mri:resourceConstraints>
    <mco:MD_LegalConstraints>
        <mco:useConstraints>
            <mco:MD_RestrictionCode
```

```
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_RestrictionCode"
```

```
codeListValue="otherRestrictions">otherRestrictions</mco:MD_RestrictionCode>
```

```
                </mco:useConstraints>
            <mco:otherConstraints>
                <gcx:Anchor xlink:href="http://inspire.ec.europa.eu/metadata-
codelist/ConditionsApplyingToAccessAndUse/noConditionsApply"/>
            </mco:otherConstraints>
        </mco:MD_LegalConstraints>
    </mri:resourceConstraints>
</mri:defaultLocale>
    <lan:PT_Locale>
        <lan:language>
            <lan:LanguageCode codeList=""
```

```
codeListValue="eng">English</lan:LanguageCode>
```

```
    </lan:language>
```

```

    <lan:characterEncoding>
      <lan:MD_CharacterSetCode codeList=""
codeListValue="utf8">utf8</lan:MD_CharacterSetCode>
    </lan:characterEncoding>
  </lan:PT_Locale>
</mri:defaultLocale>
</mri:MD_DataIdentification>
</mdb:identificationInfo>
<mdb:contentInfo>
  <mrc:MI_CoverageDescription>
    <mrc:attributeDescription>
      <gco:RecordType
xlink:href="https://mmisw.org/ont/cf/parameter/surface_bidirectional_reflectance"
      xlink:title="Surface bidirectional reflectance">The surface called "surface"
means the lower boundary of the atmosphere. "Bidirectional_reflectance" depends on the
angles of incident and measured radiation. Reflectance is the ratio of the energy of the
reflected to the incident radiation. A coordinate variable of radiation_wavelength or
radiation_frequency can be used to specify the wavelength or frequency, respectively, of the
radiation.</gco:RecordType>
    </mrc:attributeDescription>
    <mrc:attributeGroup>
      <mrc:MD_AttributeGroup>
        <mrc:contentType>
          <mrc:MD_CoverageContentTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_CoverageContentTypeCode"
codeListValue="physicalMeasurement">physicalMeasurement</mrc:MD_CoverageContentT
ypeCode>
        </mrc:contentType>
        <mrc:attribute>
          <mrc:MI_Band>
            <mrc:name>
              <mcc:MD_Identifier>
                <mcc:authority>
                  <cit:CI_Citation>
                    <cit:title>
                      <gco:CharacterString>CF Standard Name
Table</gco:CharacterString>
                    </cit:title>
                    <cit:onlineResource>
                      <cit:CI_OnlineResource>
                        <cit:linkage>
                          <gco:CharacterString>https://cfconventions.org/Data/cf-standard-
names/77/build/cf-standard-name-table.html</gco:CharacterString>
                        </cit:linkage>
                      </cit:CI_OnlineResource>
                    </cit:onlineResource>

```

```

        </cit:CI_Citation>
        </mcc:authority>
        <mcc:code>

<gco:CharacterString>surface_bidirectional_reflectance</gco:CharacterString>
        </mcc:code>
        <mcc:description>
            <gco:CharacterString>The surface called "surface" means the lower
boundary of the atmosphere. "Bidirectional_reflectance" depends on the angles of incident
and measured radiation. Reflectance is the ratio of the energy of the reflected to the incident
radiation. A coordinate variable of radiation_wavelength or radiation_frequency can be used
to specify the wavelength or frequency, respectively, of the radiation.</gco:CharacterString>
        </mcc:description>
        </mcc:MD_Identifier>
    </mrc:name>
    <mrc:boundMax>
        <gco:Real>2500</gco:Real>
    </mrc:boundMax>
    <mrc:boundMin>
        <gco:Real>350</gco:Real>
    </mrc:boundMin>
    <mrc:boundUnits>
        <gml:DerivedUnit gml:id="ucum-nm">
            <gml:identifier codeSpace="UCUM">nm</gml:identifier>
            <gml:derivationUnitTerm exponent="-9" uom="m"/>
        </gml:DerivedUnit>
    </mrc:boundUnits>
    <mrc:toneGradation>
        <gco:Integer>2151</gco:Integer>
    </mrc:toneGradation>
    </mrc:MI_Band>
</mrc:attribute>
<mrc:attribute>
    <mrc:MD_SampleDimension>
        <mrc:name>
            <mcc:MD_Identifier>
            <mcc:authority>
                <CI_Citation xmlns="http://standards.iso.org/iso/19115/-3/cit/1.0">
                    <title>
                        <gco:CharacterString>CF Standard Name
Table</gco:CharacterString>
                    </title>
                    <onlineResource>
                        <CI_OnlineResource>
                            <linkage>
                                <gco:CharacterString>https://cfconventions.org/Data/cf-standard-
names/77/build/cf-standard-name-table.html</gco:CharacterString>
                            </linkage>

```

```

        </CI_OnlineResource>
    </onlineResource>
</CI_Citation>
</mcc:authority>
<mcc:code>
    <gco:CharacterString>Latitude</gco:CharacterString>
</mcc:code>
<mcc:description>
    <gco:CharacterString>Latitude is positive northward; its units of
degree_north (or equivalent) indicate this explicitly. In a latitude-longitude system defined
with respect to a rotated North Pole, the standard name of grid_latitude should be used
instead of latitude. Grid latitude is positive in the grid-northward direction, but its units should
be plain degree.</gco:CharacterString>
    </mcc:description>
</mcc:MD_Identifier>
</mrc:name>
<mrc:units>
    <gml:BaseUnit gml:id="ucum-deg-north">
        <gml:identifier codeSpace="UCUM">degree_north</gml:identifier>
        <gml:unitsSystem xlink:href="http://www.bipm.fr/en/3_SI"/>
    </gml:BaseUnit>
</mrc:units>
</mrc:MD_SampleDimension>
</mrc:attribute>
<mrc:attribute>
    <mrc:MD_SampleDimension>
        <mrc:name>
            <mcc:MD_Identifier>
                <mcc:authority>
                    <CI_Citation xmlns="http://standards.iso.org/iso/19115/-3/cit/1.0">
                        <title>
                            <gco:CharacterString>CF Standard Name
Table</gco:CharacterString>
                        </title>
                        <onlineResource>
                            <CI_OnlineResource>
                                <linkage>
                                    <gco:CharacterString>https://cfconventions.org/Data/cf-standard-
names/77/build/cf-standard-name-table.html</gco:CharacterString>
                                </linkage>
                            </CI_OnlineResource>
                        </onlineResource>
                    </CI_Citation>
                </mcc:authority>
            </mcc:code>
            <gco:CharacterString>Longitude</gco:CharacterString>
        </mcc:code>
        <mcc:description>

```


<gco:CharacterString>Longitude is positive eastward; its units of degree_east (or equivalent) indicate this explicitly. In a latitude-longitude system defined with respect to a rotated North Pole, the standard name of grid_longitude should be used instead of longitude. Grid longitude is positive in the grid-eastward direction, but its units should be plain degree.</gco:CharacterString>

```

    </mcc:description>
  </mcc:MD_Identifier>
</mrc:name>
<mrc:units>
  <gml:BaseUnit gml:id="ucum-deg-east">
    <gml:identifier codeSpace="UCUM">degree_east</gml:identifier>
    <gml:unitsSystem xlink:href="http://www.bipm.fr/en/3_SI"/>
  </gml:BaseUnit>
</mrc:units>
</mrc:MD_SampleDimension>
</mrc:attribute>
<mrc:attribute>
  <mrc:MD_SampleDimension>
    <mrc:name>
      <mcc:MD_Identifier>
        <mcc:authority>
          <CI_Citation xmlns="http://standards.iso.org/iso/19115/-3/cit/1.0">
            <title>
              <gco:CharacterString>CF Standard Name
Table</gco:CharacterString>
            </title>
            <onlineResource>
              <CI_OnlineResource>
                <linkage>
                  <gco:CharacterString>https://cfconventions.org/Data/cf-standard-
names/77/build/cf-standard-name-table.html</gco:CharacterString>
                </linkage>
              </CI_OnlineResource>
            </onlineResource>
          </CI_Citation>
        </mcc:authority>
        <mcc:code>
          <gco:CharacterString>Altitude</gco:CharacterString>
        </mcc:code>
        <mcc:description>
          <gco:CharacterString>Altitude is the (geometric) height above the geoid,
which is the reference geopotential surface. The geoid is similar to mean sea
level.</gco:CharacterString>
        </mcc:description>
      </mcc:MD_Identifier>
    </mrc:name>
    <mrc:units>
      <gml:BaseUnit gml:id="ucum-m">

```

```

        <gml:identifier codeSpace="UCUM">m</gml:identifier>
        <gml:unitsSystem xlink:href="http://www.bipm.fr/en/3_SI"/>
        </gml:BaseUnit>
    </mrc:units>
    </mrc:MD_SampleDimension>
</mrc:attribute>
</mrc:MD_AttributeGroup>
</mrc:attributeGroup>
</mrc:MI_CoverageDescription>
</mdb:contentInfo>
<mdb:distributionInfo>
    <mrd:MD_Distribution>
        <mrd:distributionFormat>
            <mrd:MD_Format>
                <mrd:formatSpecificationCitation>
                    <cit:CI_Citation>
                        <cit:title>
                            <gco:CharacterString>NetCDF CF-1.7, ACDD-1.3, SISPEC-
1.0</gco:CharacterString>
                        </cit:title>
                        <cit:edition>
                            <gco:CharacterString>3</gco:CharacterString>
                        </cit:edition>
                        <cit:onlineResource>
                            <cit:CI_OnlineResource>
                                <cit:linkage>
                                    <gco:CharacterString>http://www.opengis.net/doc/IS/netcdf-
binary/1.0</gco:CharacterString>
                                </cit:linkage>
                            </cit:CI_OnlineResource>
                        </cit:onlineResource>
                    </cit:CI_Citation>
                </mrd:formatSpecificationCitation>
            </mrd:MD_Format>
        </mrd:distributionFormat>
        <mrd:transferOptions>
            <mrd:MD_DigitalTransferOptions>
                <mrd:onLine>
                    <cit:CI_OnlineResource>
                        <cit:linkage>
                            <gco:CharacterString>https://niveos.cnr.it/SISpec/data/332b.nc</gco:CharacterString>
                        </cit:linkage>
                    <cit:protocol>
                        <gco:CharacterString>HTTP</gco:CharacterString>
                    </cit:protocol>
                    <cit:name>
                        <gco:CharacterString>332b</gco:CharacterString>
                    </cit:name>
                </mrd:onLine>
            </mrd:MD_DigitalTransferOptions>
        </mrd:transferOptions>
    </mrd:MD_Distribution>
</mdb:distributionInfo>

```

```

        </cit:name>
        <cit:description>
            <gco:CharacterString>Spectral reflectance NetCDF-SISPEC encoded
data</gco:CharacterString>
        </cit:description>
        <cit:function>
            <cit:CI_OnLineFunctionCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_OnLineFunctionCode"

codeListValue="download">download</cit:CI_OnLineFunctionCode>
            </cit:function>
            </cit:CI_OnlineResource>
            </mrd:onLine>
            </mrd:MD_DigitalTransferOptions>
            </mrd:transferOptions>
            </mrd:MD_Distribution>
        </mdb:distributionInfo>
        <mdb:dataQualityInfo>
            <mdq:DQ_DataQuality>
                <mdq:scope>
                    <mcc:MD_Scope>
                        <mcc:level>
                            <mcc:MD_ScopeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_ScopeCode"
                                codeListValue="dataset">dataset</mcc:MD_ScopeCode>
                            </mcc:level>
                        </mcc:MD_Scope>
                    </mdq:scope>
                    <mdq:report>
                        <mdq:DQ_DomainConsistency>
                            <mdq:result>
                                <mdq:DQ_ConformanceResult>
                                    <mdq:specification xlink:href="http://inspire.ec.europa.eu/id/citation/ir/reg-1089-
2010">
                                        <cit:CI_Citation>
                                            <cit:title>
                                                <gco:CharacterString>COMMISSION REGULATION (EU) No 1089/2010
of 23 November 2010 implementing Directive 2007/2/EC of the European Parliament and of
the Council as regards interoperability of spatial data sets and
services</gco:CharacterString>
                                            </cit:title>
                                            <cit:date>
                                                <cit:CI_Date>
                                                    <cit:date>
                                                        <gco:Date>2010-12-08</gco:Date>
                                                    </cit:date>
                                                </cit:date>
                                            </cit:CI_Citation>
                                        </mdq:specification>
                                    </mdq:DQ_ConformanceResult>
                                </mdq:result>
                            </mdq:DQ_DomainConsistency>
                        </mdq:report>
                    </mdq:scope>
                </mcc:MD_Scope>
            </mdq:DQ_DataQuality>
        </mdb:dataQualityInfo>
    </mdb:distributionInfo>
</mrd:MD_Distribution>
</mrd:transferOptions>
</mrd:MD_DigitalTransferOptions>
</mrd:onLine>
</cit:CI_OnlineResource>
</cit:function>
</cit:CI_OnLineFunctionCode>
</gco:CharacterString>
</cit:description>
</cit:name>

```

```

        <cit:dateType>
            <cit:CI_DateTypeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#CI_DateTypeCode"
codeListValue="publication">publication</cit:CI_DateTypeCode>
            </cit:dateType>
        </cit:CI_Date>
    </cit:date>
</cit:CI_Citation>
</mdq:specification>
<mdq:explanation>
    <gco:CharacterString>This data set is conformant with the INSPIRE
Implementing Rules for the interoperability of spatial data sets and
services</gco:CharacterString>
</mdq:explanation>
<mdq:pass>
    <gco:Boolean>>true</gco:Boolean>
</mdq:pass>
</mdq:DQ_ConformanceResult>
</mdq:result>
</mdq:DQ_DomainConsistency>
</mdq:report>
</mdq:DQ_DataQuality>
</mdb:dataQualityInfo>
<mdb:resourceLineage>
<mrl:LI_Lineage>
<mrl:statement>
    <gco:CharacterString>averaged measurements</gco:CharacterString>
</mrl:statement>
<mrl:processStep>
<mrl:LE_ProcessStep>
<mrl:description>
    <gco:CharacterString>average</gco:CharacterString>
</mrl:description>
<mrl:rationale>
    <gco:CharacterString>average between different
measurements</gco:CharacterString>
</mrl:rationale>
</mrl:LE_ProcessStep>
</mrl:processStep>
</mrl:LI_Lineage>
</mdb:resourceLineage>
<mac:acquisitionInformation>
<mac:MI_AcquisitionInformation>
<mac:scope>
<mcc:MD_Scope>
<mcc:level>

```

```

        <mcc:MD_ScopeCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_ScopeCode"
        codeListValue="dataset">dataset</mcc:MD_ScopeCode>
    </mcc:level>
</mcc:MD_Scope>
</mac:scope>
<mac:instrument>
    <mac:MI_Instrument id="instrument1">
        <mac:citation>
            <cit:CI_Citation>
                <cit:title>
                    <gco:CharacterString>Fieldspec FSP350-2500P (Analytical Spectral Device
inc.)</gco:CharacterString>
                </cit:title>
                <cit:onlineResource>
                    <cit:CI_OnlineResource>
                        <cit:linkage>
<gco:CharacterString>https://www.malvernpanalytical.com/en/products/product-range/asd-
range/fieldspec-range</gco:CharacterString>
                    </cit:linkage>
                    </cit:CI_OnlineResource>
                </cit:onlineResource>
            </cit:CI_Citation>
        </mac:citation>
        <mac:identifier>
            <mcc:MD_Identifier>
                <mcc:code>
                    <gco:CharacterString>serial number 634</gco:CharacterString>
                </mcc:code>
            </mcc:MD_Identifier>
        </mac:identifier>
        <mac:type>
            <gco:CharacterString>Spectroradiometer</gco:CharacterString>
        </mac:type>
        <mac:otherPropertyType>
            <gco:RecordType xlink:href="https://www.unidata.ucar.edu/schemas/netcdf/ncml-
2.2.xsd#xpointer(//element[@name='variable'])"/>
        </mac:otherPropertyType>
        <mac:otherProperty>
            <gco:Record>
                <ncml:variable
xmlns:ncml="http://www.unidata.ucar.edu/namespaces/netcdf/ncml-2.2"
                name="reflectance"

xsi:schemaLocation="http://www.unidata.ucar.edu/namespaces/netcdf/ncml-2.2
https://www.unidata.ucar.edu/schemas/netcdf/ncml-2.2.xsd">

```

```

    <ncml:attribute name="instrument_foreoptics" value="fiber"/>
    <ncml:attribute name="instrument_field_of_view" value="25"/>
    <ncml:attribute name="instrument_calibration_reference"
value="Spectralon"/>
    <ncml:attribute name="instrument_distance" value="50"/>
    <ncml:attribute name="instrument_zenith_angle" value="0"/>
    <ncml:attribute name="instrument_goniometer" value="FIGIFIGO"/>
    <ncml:attribute name="instrument_internal_scans" value="100"/>
    <ncml:attribute name="instrument_averaged_readings" value="10"/>
    <ncml:attribute name="instrument_azimuth_angle" value="180"/>
    <ncml:attribute name="instrument_calibration_date" value="1998-01-10"/>
    <ncml:attribute name="instrument_calibration_data"
value="https://niveos.cnr.it/SISpec/data/calibration/cal_19980110.txt"/>
    <ncml:attribute name="instrument_calibration_radiance"
value="https://niveos.cnr.it/SISpec/data/calibration/rad_19980110.txt"/>
    <ncml:attribute name="instrument_calibration_irradiance"
value="https://niveos.cnr.it/SISpec/data/calibration/irr_19980110.txt"/>
    <ncml:attribute name="instrument_dark_current_correction" value="yes"/>
    <ncml:attribute name="instrument_gain_array" value="1, 52, 27"/>
    <ncml:attribute name="instrument_offset_array" value="0, 2073, 2086"/>
    <ncml:attribute name="instrument_scan_duration" value="100"/>
    <ncml:attribute name="instrument_signal_to_noise" value="400"/>
    <ncml:attribute name="instrument_spectral_resolution" value="2"/>
    <ncml:attribute name="instrument_fwhm" value="1.2"/>
    <ncml:attribute name="instrument_time_white_reference" value="600"/>
    <ncml:attribute name="instrument_time_dark_current" value="600"/>
    <ncml:attribute name="instrument_software_name" value="FR"/>
    <ncml:attribute name="instrument_software_version" value="1.0"/>
    <ncml:attribute name="instrument_raw_data_format" value="raw data format
asd"/>
    <ncml:attribute name="instrument_spectral_bandwidth" value="2"/>
    <ncml:attribute name="instrument_wavelength_range" value="350, 2500"/>
  </ncml:variable>
</gco:Record>
</mac:otherProperty>
</mac:MI_Instrument>
</mac:instrument>
<mac:operation>
  <mac:MI_Operation>
    <mac:description>
      <gco:CharacterString>Field survey close to the Terra Nova Bay, Italian Antarctic
Station</gco:CharacterString>
    </mac:description>
  </mac:MI_Operation>
</mac:operation>
</cit:CI_Citation>

```

```

        <cit:title>
          <gco:CharacterString>TLR_GIS</gco:CharacterString>
        </cit:title>
      </cit:CI_Citation>
    </mac:citation>
    <mac:status>
      <gcc:MD_ProgressCode
codeList="https://schemas.isotc211.org/schemas/19115/resources/Codelist/cat/codelists.xml
#MD_ProgressCode"
        codeListValue="completed">completed</gcc:MD_ProgressCode>
    </mac:status>
    <mac:type>
      <mac:MI_OperationTypeCode
codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelis
ts.xml#MI_OperationTypeCode"
        codeListValue="real">real</mac:MI_OperationTypeCode>
    </mac:type>
  </mac:MI_Operation>
</mac:operation>
<mac:platform>
  <mac:MI_Platform>
    <mac:identifier gco:nilReason="missing"/>
    <mac:description>
      <gco:CharacterString>tripod</gco:CharacterString>
    </mac:description>
    <mac:instrument xlink:href="instrument1"/>
  </mac:MI_Platform>
</mac:platform>
<mac:objective>
  <mac:MI_Objective>
    <mac:identifier>
      <gcc:MD_Identifier>
        <gcc:code>
          <gco:Anchor
xlink:href="https://data.aad.gov.au/aadc/gaz/scar/display_name.cfm?gaz_id=114527"/>
        </gcc:code>
      </gcc:MD_Identifier>
    </mac:identifier>
    <mac:type>
      <mac:MI_ObjectiveTypeCode
codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelis
ts.xml#MI_ObjectiveTypeCode"
        codeListValue="survey">survey</mac:MI_ObjectiveTypeCode>
    </mac:type>
  <mac:objectiveOccurrence>
    <mac:MI_Event>
      <mac:identifier>
        <gcc:MD_Identifier>

```

```

        <mcc:code>
            <gcx:Anchor
xlink:href="https://data.aad.gov.au/aadc/gaz/scar/display_name.cfm?gaz_id=114527"/>
            </mcc:code>
        </mcc:MD_Identifier>
    </mac:identifier>
    <mac:trigger>
        <mac:MI_TriggerCode
codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelis
ts.xml#MI_TriggerCode"
            codeListValue="manual">manual</mac:MI_TriggerCode>
        </mac:trigger>
    <mac:context>
        <mac:MI_ContextCode
codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelis
ts.xml#MI_ContextCode"
            codeListValue="acquisition">acquisition</mac:MI_ContextCode>
        </mac:context>
    <mac:sequence>
        <mac:MI_SequenceCode
codeList="https://data.noaa.gov/resources/iso19139/schema/resources/Codelist/gmxCodelis
ts.xml#MI_SequenceCode"
            codeListValue="instantaneous">instantaneous</mac:MI_SequenceCode>
        </mac:sequence>
    <mac:time>
        <gco:DateTime>1998-11-19T02:10:00Z</gco:DateTime>
    </mac:time>
</mac:MI_Event>
</mac:objectiveOccurence>
</mac:MI_Objective>
</mac:objective>
<mac:environmentalConditions>
    <sispec:SISPEC_EnvironmentalRecord
gco:isoType="MI_EnvironmentalRecord_Type">
        <mac:averageAirTemperature gco:nilReason="missing"/>
        <mac:maxRelativeHumidity gco:nilReason="missing"/>
        <mac:maxAltitude gco:nilReason="missing"/>
        <mac:meteorologicalConditions>
            <gco:CharacterString>calm wind condition</gco:CharacterString>
        </mac:meteorologicalConditions>
        <mac:solarAzimuth>
            <gco:Real>35</gco:Real>
        </mac:solarAzimuth>
        <mac:solarElevation>
            <gco:Real>180</gco:Real>
        </mac:solarElevation>
        <sispec:snowHardness>

```



```
<sispec:condition>
  <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="snowHardness">snowHardness</sispec:SISPEC_ConditionCode>
</sispec:condition>
<sispec:category>
  <sispec:SISPEC_HardnessCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_HardnessCode"
codeListValue="verySoft">verySoft</sispec:SISPEC_HardnessCode>
</sispec:category>
</sispec:snowHardness>
<sispec:snowSurfaceRoughness>
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="snowSurfaceRoughness">snowSurfaceRoughness</sispec:SISPEC_Condit
ionCode>
  </sispec:condition>
  <sispec:category>
    <sispec:SISPEC_SnowSurfaceRoughnessCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_SnowSurfaceRoughnessCode"
codeListValue="wavy">wavy</sispec:SISPEC_SnowSurfaceRoughnessCode>
  </sispec:category>
</sispec:snowSurfaceRoughness>
<sispec:wetnessIndexOfSurfaceSnow>
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="wetnessIndexOfSurfaceSnow">wetnessIndexOfSurfaceSnow</sispec:SISP
EC_ConditionCode>
  </sispec:condition>
  <sispec:category>
    <sispec:SISPEC_WetnessIndexOfSurfaceSnowCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-
codelists.xml#SISPEC_WetnessIndexOfSurfaceSnowCode"
codeListValue="dry">dry</sispec:SISPEC_WetnessIndexOfSurfaceSnowCode>
  </sispec:category>
</sispec:wetnessIndexOfSurfaceSnow>
<sispec:descriptiveCondition xmlns:gml="http://www.opengis.net/gml"
  xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
  xmlns:srv="http://www.isotc211.org/2005/srv">
  <sispec:condition>
```

```

        <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="illuminationSource">illuminationSource</sispec:SISPEC_ConditionCode>
    </sispec:condition>
    <sispec:description>
        <gco:CharacterString>sun</gco:CharacterString>
    </sispec:description>
</sispec:descriptiveCondition>
<sispec:descriptiveCondition xmlns:gml="http://www.opengis.net/gml"
    xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
    xmlns:srv="http://www.isotc211.org/2005/srv">
    <sispec:condition>
        <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="surfaceDescription">surfaceDescription</sispec:SISPEC_ConditionCode>
    </sispec:condition>
    <sispec:description>
        <gco:CharacterString>smooth surface with rounded grains of 0.4 mm average
radius</gco:CharacterString>
    </sispec:description>
</sispec:descriptiveCondition>
<sispec:quantitativeCondition>
    <sispec:condition>
        <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="illuminationDistance">illuminationDistance</sispec:SISPEC_ConditionCode
>
    </sispec:condition>
    <sispec:measure uom="m">3</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition>
    <sispec:condition>
        <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="illuminationElevation">illuminationElevation</sispec:SISPEC_ConditionCod
e>
    </sispec:condition>
    <sispec:measure uom="deg">18</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition>
    <sispec:condition>
        <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"

```

```

codeListValue="illuminationAzimuth">illuminationAzimuth</sispec:SISPEC_ConditionCode>
  </sispec:condition>
  <sispec:measure uom="deg">45</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition xmlns:gml="http://www.opengis.net/gml"
  xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
  xmlns:srv="http://www.isotc211.org/2005/srv">
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"

```

```

codeListValue="snowDepth">snowDepth</sispec:SISPEC_ConditionCode>
  </sispec:condition>
  <sispec:measure uom="m-2">1</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition xmlns:gml="http://www.opengis.net/gml"
  xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
  xmlns:srv="http://www.isotc211.org/2005/srv">
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"

```

```

codeListValue="temperatureInSurfaceSnow">temperatureInSurfaceSnow</sispec:SISPEC_
ConditionCode>
  </sispec:condition>
  <sispec:measure uom="degree_Celsius">-12.5</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition xmlns:gml="http://www.opengis.net/gml"
  xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
  xmlns:srv="http://www.isotc211.org/2005/srv">
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"

```

```

codeListValue="airTemperature">airTemperature</sispec:SISPEC_ConditionCode>
  </sispec:condition>
  <sispec:measure uom="degree_Celsius">-3.1</sispec:measure>
</sispec:quantitativeCondition>
<sispec:quantitativeCondition xmlns:gml="http://www.opengis.net/gml"
  xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
  xmlns:srv="http://www.isotc211.org/2005/srv">
  <sispec:condition>
    <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"

```

```

codeListValue="cloudAreaFraction">cloudAreaFraction</sispec:SISPEC_ConditionCode>
  </sispec:condition>

```

```

        <sispec:measure uom="1">0.0</sispec:measure>
    </sispec:quantitativeCondition>
    <sispec:quantitativeCondition xmlns:gml="http://www.opengis.net/gml"
        xmlns:mac="http://standards.iso.org/iso/19115/-3/mac/1.0"
        xmlns:srv="http://www.isotc211.org/2005/srv">
        <sispec:condition>
            <sispec:SISPEC_ConditionCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_ConditionCode"
codeListValue="windSpeed">windSpeed</sispec:SISPEC_ConditionCode>
        </sispec:condition>
        <sispec:measure uom="m.s-1">4.0</sispec:measure>
    </sispec:quantitativeCondition>
    <sispec:snowGrain>
        <sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticles>
            <sispec:percentage>
                <gco:Real>60.0</gco:Real>
            </sispec:percentage>
            <sispec:size uom="m">2.0</sispec:size>
            <sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticlesCode
codeList="https://essi-lab.eu/schemas/SISPEC/SISPEC-
codelists.xml#SISPEC_DecomposingAndFragmentedPrecipitationParticlesCode"
codeListValue="DFdc">DFdc</sispec:SISPEC_DecomposingAndFragmentedPrecipitationP
articlesCode>
        </sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticles>
    </sispec:snowGrain>
    <sispec:snowGrain>
        <sispec:SISPEC_PrecipitationParticles>
            <sispec:percentage>
                <gco:Real>20.0</gco:Real>
            </sispec:percentage>
            <sispec:size uom="m">2.5</sispec:size>
            <sispec:SISPEC_PrecipitationParticlesCode codeList="https://essi-
lab.eu/schemas/SISPEC/SISPEC-codelists.xml#SISPEC_PrecipitationParticlesCode"
codeListValue="PPsd">PPsd</sispec:SISPEC_PrecipitationParticlesCode>
        </sispec:SISPEC_PrecipitationParticles>
    </sispec:snowGrain>
    <sispec:snowGrain>
        <sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticles>
            <sispec:percentage>
                <gco:Real>20.0</gco:Real>
            </sispec:percentage>
            <sispec:size uom="m">1.0</sispec:size>
            <sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticlesCode
codeList="https://essi-lab.eu/schemas/SISPEC/SISPEC-
codelists.xml#SISPEC_DecomposingAndFragmentedPrecipitationParticlesCode"

```

```

codeListValue="DFbk">DFbk</sispec:SISPEC_DecomposingAndFragmentedPrecipitationP
articlesCode>
    </sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticles>
  </sispec:snowGrain>
</sispec:SISPEC_EnvironmentalRecord>
</mac:environmentalConditions>
</mac:MI_AcquisitionInformation>
</mac:acquisitionInformation>
</mac:MI_Metadata>

```

The sample document compliant with this metadata profile is available here: https://essi-lab.eu/schemas/SISPEC/SISPEC_example_1.1-iso.xml

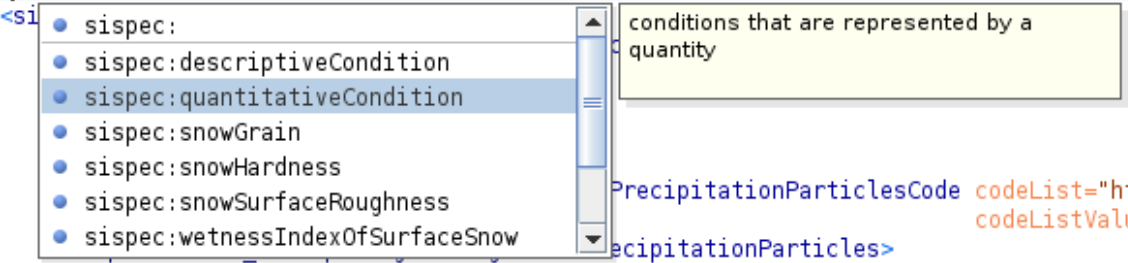
(it describes the sample data object here available for reference: https://essi-lab.eu/schemas/SISPEC/SISPEC_example_1.1.nc)

It's recommended to use an XML Schema and Schematron aware editor or library while creating new files to be valid according to the SISPEC metadata profile. Such tools will considerably guide the XML drafting process reducing the possibility of encoding errors.

```

    </sispec:condition>
    <sispec:measure uom="m.s-1">4.0</sispec:measure>
  </sispec:quantitativeCondition>
</sispec:snowGrain>
</sispec:snowGrain>
<sispec:SISPEC_PrecipitationParticles>
  <sispec:percentage>
    <gco:Real>20.0</gco:Real>
  </sispec:percentage>
  <sispec:size uom="m">2.5</sispec:size>
  <sispec:SISPEC_PrecipitationParticlesCode codeList="https://essi-lab.eu/schemas
codeListValue="PPsd">PPsd</sispec:SISPEC_PrecipitationParticlesCode>
</sispec:SISPEC_PrecipitationParticles>
</sispec:snowGrain>
</sispec:snowGrain>
</sispec:SISPEC_DecomposingAndFragmentedPrecipitationParticles>

```



XML Schema + schematron aware editor tool are valuable tools for drafting SISPEC metadata documents. In the image above Oxygen® XML editor shows valid XML element completions.


3.6 INSPIRE validation

At the time of writing the INSPIRE ETF validator doesn't yet support ISO 19115-3 standard, however it is possible to produce a ISO 19139 version of SISPEC metadata document by automatic translation (through a XSLT) to check the validity of SISPEC profile records.

The XSLT able to obtain a ISO 19139 version of a SISPEC profile metadata document is available here: <https://essi-lab.eu/schemas/SISPEC/toISO19139.xsl>

After conversion the produced ISO 19139 document can be tested with the INSPIRE ETF validator at: <https://inspire.ec.europa.eu/validator/>

SISPEC profile has been drafted in order to be compliant with *Metadata (TG version 2.0) Conformance Class 2: 'INSPIRE data sets and data set series interoperability metadata'*, so the validation should be successful in case of valid SISPEC profile metadata documents.



**Test run on 12:01 - 04.06.2021 with test suite
Conformance Class 2: INSPIRE data sets
and data set series interoperability
metadata.**

Status Passed		Total	Skipped	Failed	Warnings	Manual	Level of detail
Started 04/06/2021 10:02:15 GMT		Count					<input type="radio"/> All details <input type="radio"/> Less information <input checked="" type="radio"/> Simplified
Duration 0.944 s		Test suites 3	0	0	0	0	<input checked="" type="radio"/> All <input type="radio"/> Only failed <input type="radio"/> Only manual
		Test cases 10	0	0	0	0	
		Assertions 39	0	0	0	0	

+ Conformance Class 1: INSPIRE data sets and data set series baseline metadata.
3

+ Common Requirements for ISO/TC 19139:2007 based INSPIRE metadata records.
3

+ Conformance Class 2: INSPIRE data sets and data set series interoperability metadata.
4

Report generated by ETF

4. References

- SISPEC:2021 ISO 19115 metadata profile