

# Bayesian Cluster Tool

Generated by Doxygen 1.9.1

Fri Jun 30 2023 11:27:12



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# Chapter 1

## Class Index

### 1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<a href="#">ClusterWrapper</a>	
A struct for storing extracted parameters from a cluster . . . . .	5
<a href="#">ScanEntry</a>	
A struct for storing a result of an individual scan configuration . . . . .	7



## Chapter 2

# File Index

### 2.1 File List

Here is a list of all documented files with brief descriptions:

<a href="#">include/BayesianClustering/API.hpp</a> . . . . .	9
<a href="#">src/BayesianClustering/API.cpp</a> . . . . .	16





## Chapter 3

# Class Documentation

### 3.1 ClusterWrapper Struct Reference

A struct for storing extracted parameters from a cluster.

```
#include <API.hpp>
```

#### Public Member Functions

- bool `operator<` (const `ClusterWrapper` &aOther)  
*Comparison operator for sorting.*
- bool `operator==` (const `ClusterWrapper` &aOther)  
*Equality operator required by boost python.*

#### Public Attributes

- `std::size_t` `localizations`  
*The number of localizations in the cluster.*
- `long double` `area`  
*The area of the spanning convex hull.*
- `long double` `perimeter`  
*The perimeter of the spanning convex hull.*
- `double` `centroid_x`  
*The x-position of the centroid.*
- `double` `centroid_y`  
*The y-position of the centroid.*

#### 3.1.1 Detailed Description

A struct for storing extracted parameters from a cluster.

Definition at line 44 of file API.hpp.

## 3.1.2 Member Function Documentation

### 3.1.2.1 `operator<()`

```
bool ClusterWrapper::operator< (
    const ClusterWrapper & aOther ) [inline]
```

Comparison operator for sorting.

#### Returns

Whether we are smaller than the other

#### Parameters

<i>aOther</i>	Another <a href="#">ClusterWrapper</a> to compare against
---------------	---

Definition at line 54 of file API.hpp.

References area, localizations, and perimeter.

### 3.1.2.2 `operator==()`

```
bool ClusterWrapper::operator== (
    const ClusterWrapper & aOther ) [inline]
```

Equality operator required by boost python.

#### Returns

Whether we are equal to the other

#### Parameters

<i>aOther</i>	Another <a href="#">ClusterWrapper</a> to compare against
---------------	---

Definition at line 64 of file API.hpp.

References centroid\_x, and centroid\_y.

The documentation for this struct was generated from the following file:

- include/BayesianClustering/[API.hpp](#)

## 3.2 ScanEntry Struct Reference

A struct for storing a result of an individual scan configuration.

```
#include <API.hpp>
```

### Public Member Functions

- bool `operator<` (const `ScanEntry` &aOther)  
*Comparison operator for sorting.*
- bool `operator==` (const `ScanEntry` &aOther)  
*Equality operator required by boost python.*

### Public Attributes

- double `r`  
*The R parameter*
- double `t`  
*The T parameter.*
- double `score`  
*The score.*

### 3.2.1 Detailed Description

A struct for storing a result of an individual scan configuration.

Definition at line 16 of file API.hpp.

### 3.2.2 Member Function Documentation

#### 3.2.2.1 `operator<()`

```
bool ScanEntry::operator< (  
    const ScanEntry & aOther ) [inline]
```

Comparison operator for sorting.

#### Returns

Whether we are smaller than the other

**Parameters**

<i>aOther</i>	Another <a href="#">ScanEntry</a> to compare against
---------------	--

Definition at line 24 of file API.hpp.

References [r](#), and [t](#).

**3.2.2.2 operator==()**

```
bool ScanEntry::operator== (
    const ScanEntry & aOther ) [inline]
```

Equality operator required by boost python.

**Returns**

Whether we are equal to the other

**Parameters**

<i>aOther</i>	Another <a href="#">ScanEntry</a> to compare against
---------------	--

Definition at line 33 of file API.hpp.

References [r](#), [score](#), and [t](#).

The documentation for this struct was generated from the following file:

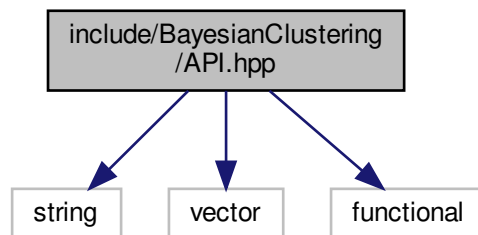
- [include/BayesianClustering/API.hpp](#)

## Chapter 4

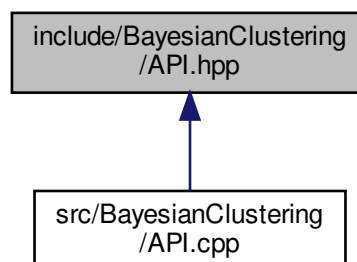
# File Documentation

### 4.1 include/BayesianClustering/API.hpp File Reference

```
#include <string>
#include <vector>
#include <functional>
Include dependency graph for API.hpp:
```



This graph shows which files directly or indirectly include this file:



## Classes

- struct [ScanEntry](#)  
*A struct for storing a result of an individual scan configuration.*
- struct [ClusterWrapper](#)  
*A struct for storing extracted parameters from a cluster.*

## Typedefs

- typedef std::function< void(Rolproxy &, const double &, const double &) > [tFullScanCallback](#)  
*Typedef the full scan callback for clarity.*
- typedef std::function< void(const std::vector< [ScanEntry](#) > &) > [tSimpleScanCallback](#)  
*Typedef the simplified scan callback for clarity.*
- typedef std::function< void(Rolproxy &) > [tFullClusterCallback](#)  
*Typedef the full clustering callback for clarity.*
- typedef std::function< void(const std::vector< [ClusterWrapper](#) > &) > [tSimpleClusterCallback](#)  
*Typedef the simplified clustering callback for clarity.*

## Functions

- void [AutoRoi\\_Scan\\_FullCallback](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const [tFullScanCallback](#) &aCallback)  
*Automatically extract Roi, run scan and apply a full call-back.*
- void [AutoRoi\\_Scan\\_SimpleCallback](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const [tSimpleScanCallback](#) &aCallback)  
*Automatically extract Roi, run scan and apply a simple call-back.*
- void [AutoRoi\\_Scan\\_ToJson](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const std::string &aOutputPattern)  
*Automatically extract Roi, run scan and dump to JSON file.*
- void [AutoRoi\\_Cluster\\_FullCallback](#) (const std::string &aInFile, const double &aR, const double &aT, const [tFullClusterCallback](#) &aCallback)  
*Automatically extract Roi, clusterize and apply a full call-back.*
- void [AutoRoi\\_Cluster\\_SimpleCallback](#) (const std::string &aInFile, const double &aR, const double &aT, const [tSimpleClusterCallback](#) &aCallback)  
*Automatically extract Roi, clusterize and apply a full call-back.*
- void [AutoRoi\\_Cluster\\_ToJson](#) (const std::string &aInFile, const double &aR, const double &aT, const std::string &aOutputPattern)  
*Automatically specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Scan\\_FullCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const [tFullScanCallback](#) &aCallback)  
*Manually specify Roi, run scan and apply a full call-back.*
- void [ManualRoi\\_Scan\\_SimpleCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const [tSimpleScanCallback](#) &aCallback)  
*Manually specify Roi, run scan and apply a simple call-back.*
- void [ManualRoi\\_Scan\\_ToJson](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const std::string &aOutputPattern)  
*Manually specify Roi, run scan and dump to JSON file.*
- void [ManualRoi\\_Cluster\\_FullCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const [tFullClusterCallback](#) &aCallback)  
*Manually specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Cluster\\_SimpleCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const [tSimpleClusterCallback](#) &aCallback)  
*Manually specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Cluster\\_ToJson](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const std::string &aOutputPattern)  
*Manually specify Roi, clusterize and apply a full call-back.*

## 4.1.1 Function Documentation

### 4.1.1.1 AutoRoi\_Cluster\_FullCallback()

```
void AutoRoi_Cluster_FullCallback (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const tFullClusterCallback & aCallback )
```

Automatically extract RoI, clusterize and apply a full call-back.

#### Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 163 of file API.cpp.

Referenced by AutoRoi\_Cluster\_SimpleCallback().

### 4.1.1.2 AutoRoi\_Cluster\_SimpleCallback()

```
void AutoRoi_Cluster_SimpleCallback (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const tSimpleClusterCallback & aCallback )
```

Automatically extract RoI, clusterize and apply a full call-back.

#### Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 169 of file API.cpp.

References \_FullClusterToSimpleCluster\_(), and AutoRoi\_Cluster\_FullCallback().

Referenced by AutoRoi\_Cluster\_ToJson().

#### 4.1.1.3 AutoRoi\_Cluster\_ToJson()

```
void AutoRoi_Cluster_ToJson (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const std::string & aOutputPattern )
```

Automatically specify Roi, clusterize and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the Roi id).

Definition at line 175 of file API.cpp.

References `_ClusterCallback_Json_()`, and `AutoRoi_Cluster_SimpleCallback()`.

#### 4.1.1.4 AutoRoi\_Scan\_FullCallback()

```
void AutoRoi_Scan_FullCallback (
    const std::string & aInFile,
    const ScanConfiguration & aScanConfig,
    const tFullScanCallback & aCallback )
```

Automatically extract Roi, run scan and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The full callback to be applied

Definition at line 143 of file API.cpp.

#### 4.1.1.5 AutoRoi\_Scan\_SimpleCallback()

```
void AutoRoi_Scan_SimpleCallback (
    const std::string & aInFile,
    const ScanConfiguration & aScanConfig,
    const tSimpleScanCallback & aCallback )
```

Automatically extract Roi, run scan and apply a simple call-back.



## Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The simple callback to be applied

Definition at line 149 of file API.cpp.

References `_FullScanToSimpleScan_()`.

Referenced by `AutoRoi_Scan_ToJson()`.

4.1.1.6 `AutoRoi_Scan_ToJson()`

```
void AutoRoi_Scan_ToJson (
    const std::string & aInFile,
    const ScanConfiguration & aScanConfig,
    const std::string & aOutputPattern )
```

Automatically extract RoI, run scan and dump to JSON file.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the RoI id).

Definition at line 155 of file API.cpp.

References `_ScanCallback_Json_()`, and `AutoRoi_Scan_SimpleCallback()`.

4.1.1.7 `ManualRoi_Cluster_FullCallback()`

```
void ManualRoi_Cluster_FullCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const tFullClusterCallback & aCallback )
```

Manually specify RoI, clusterize and apply a full call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 203 of file API.cpp.

Referenced by ManualRoi\_Cluster\_SimpleCallback().

#### 4.1.1.8 ManualRoi\_Cluster\_SimpleCallback()

```
void ManualRoi_Cluster_SimpleCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const tSimpleClusterCallback & aCallback )
```

Manually specify RoI, clusterize and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 209 of file API.cpp.

References \_FullClusterToSimpleCluster\_(), and ManualRoi\_Cluster\_FullCallback().

Referenced by ManualRoi\_Cluster\_ToJson().

#### 4.1.1.9 ManualRoi\_Cluster\_ToJson()

```
void ManualRoi_Cluster_ToJson (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const std::string & aOutputPattern )
```

Manually specify RoI, clusterize and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the RoI id).

Definition at line 215 of file API.cpp.

References `_ClusterCallback_Json_()`, and `ManualRoi_Cluster_SimpleCallback()`.

#### 4.1.1.10 ManualRoi\_Scan\_FullCallback()

```
void ManualRoi_Scan_FullCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const ScanConfiguration & aScanConfig,
    const tFullScanCallback & aCallback )
```

Manually specify RoI, run scan and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The full callback to be applied

Definition at line 183 of file API.cpp.

#### 4.1.1.11 ManualRoi\_Scan\_SimpleCallback()

```
void ManualRoi_Scan_SimpleCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const ScanConfiguration & aScanConfig,
    const tSimpleScanCallback & aCallback )
```

Manually specify RoI, run scan and apply a simple call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The simple callback to be applied

Definition at line 189 of file API.cpp.

References `_FullScanToSimpleScan_()`.

Referenced by `ManualRoi_Scan_ToJson()`.

#### 4.1.1.12 ManualRoi\_Scan\_ToJson()

```
void ManualRoi_Scan_ToJson (
    const std::string & aInFile,
    const ManualRoi & aManualRoi,
    const ScanConfiguration & aScanConfig,
    const std::string & aOutputPattern )
```

Manually specify Roi, run scan and dump to JSON file.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoi</i>	The manually-specified Roi window
<i>aScanConfig</i>	The configuration for the scan
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the Roi id).

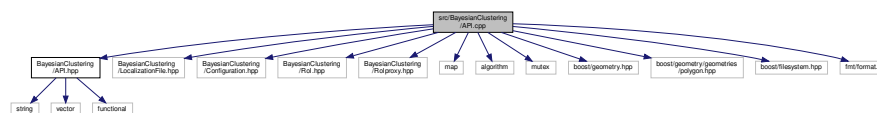
Definition at line 195 of file API.cpp.

References `_ScanCallback_Json_()`, and `ManualRoi_Scan_SimpleCallback()`.

## 4.2 src/BayesianClustering/API.cpp File Reference

```
#include "BayesianClustering/API.hpp"
#include "BayesianClustering/LocalizationFile.hpp"
#include "BayesianClustering/Configuration.hpp"
#include "BayesianClustering/Roi.hpp"
#include "BayesianClustering/RoiProxy.hpp"
#include <map>
#include <algorithm>
#include <mutex>
#include <boost/geometry.hpp>
#include <boost/geometry/geometries/polygon.hpp>
#include <boost/filesystem.hpp>
#include <fmt/format.h>
```

Include dependency graph for API.cpp:



## Functions

- `void _ScanCallback_Json_ (const std::vector< ScanEntry > &aVector, const std::string &aInFile, const std::string &aOutputPattern)`

*A callback to dump a scan to a JSON file.*

- void [\\_FullScanToSimpleScan\\_](#) (Rol &aRol, const ScanConfiguration &aScanConfig, const [tSimpleScanCallback](#) &aCallback)  
*A callback to neatly package the scan results for easy consumption.*
- void [\\_ClusterCallback\\_Json\\_](#) (const std::vector< [ClusterWrapper](#) > &aVector, const std::string &aInFile, const std::string &aOutputPattern)  
*A callback to dump a clustering run to a JSON file.*
- void [\\_FullClusterToSimpleCluster\\_](#) (Rolproxy &aRolproxy, const std::function< void(const std::vector< [ClusterWrapper](#) > &) > &aCallback)  
*A callback to neatly package the scan results for easy consumption.*
- void [AutoRoi\\_Scan\\_FullCallback](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const [tFullScanCallback](#) &aCallback)  
*Automatically extract Roi, run scan and apply a full call-back.*
- void [AutoRoi\\_Scan\\_SimpleCallback](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const [tSimpleScanCallback](#) &aCallback)  
*Automatically extract Roi, run scan and apply a simple call-back.*
- void [AutoRoi\\_Scan\\_ToJson](#) (const std::string &aInFile, const ScanConfiguration &aScanConfig, const std::string &aOutputPattern)  
*Automatically extract Roi, run scan and dump to JSON file.*
- void [AutoRoi\\_Cluster\\_FullCallback](#) (const std::string &aInFile, const double &aR, const double &aT, const [tFullClusterCallback](#) &aCallback)  
*Automatically extract Roi, clusterize and apply a full call-back.*
- void [AutoRoi\\_Cluster\\_SimpleCallback](#) (const std::string &aInFile, const double &aR, const double &aT, const [tSimpleClusterCallback](#) &aCallback)  
*Automatically extract Roi, clusterize and apply a full call-back.*
- void [AutoRoi\\_Cluster\\_ToJson](#) (const std::string &aInFile, const double &aR, const double &aT, const std::string &aOutputPattern)  
*Automatically specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Scan\\_FullCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const [tFullScanCallback](#) &aCallback)  
*Manually specify Roi, run scan and apply a full call-back.*
- void [ManualRoi\\_Scan\\_SimpleCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const [tSimpleScanCallback](#) &aCallback)  
*Manually specify Roi, run scan and apply a simple call-back.*
- void [ManualRoi\\_Scan\\_ToJson](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const ScanConfiguration &aScanConfig, const std::string &aOutputPattern)  
*Manually specify Roi, run scan and dump to JSON file.*
- void [ManualRoi\\_Cluster\\_FullCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const [tFullClusterCallback](#) &aCallback)  
*Manually specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Cluster\\_SimpleCallback](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const [tSimpleClusterCallback](#) &aCallback)  
*Manually specify Roi, clusterize and apply a full call-back.*
- void [ManualRoi\\_Cluster\\_ToJson](#) (const std::string &aInFile, const ManualRoi &aManualRoi, const double &aR, const double &aT, const std::string &aOutputPattern)  
*Manually specify Roi, clusterize and apply a full call-back.*

### 4.2.1 Function Documentation

#### 4.2.1.1 `_ClusterCallback_Json_()`

```
void _ClusterCallback_Json_ (
    const std::vector< ClusterWrapper > & aVector,
    const std::string & aInFile,
    const std::string & aOutputPattern )
```

A callback to dump a clustering run to a JSON file.

##### Parameters

<i>aVector</i>	A vector of cluster-wrappers
<i>aInFile</i>	The name of the localization file
<i>aOutputPattern</i>	The name of the output JSON file

Definition at line 89 of file API.cpp.

Referenced by `AutoRoi_Cluster_ToJson()`, and `ManualRoi_Cluster_ToJson()`.

#### 4.2.1.2 `_FullClusterToSimpleCluster_()`

```
void _FullClusterToSimpleCluster_ (
    RoIproxy & aRoIproxy,
    const std::function< void(const std::vector< ClusterWrapper > &) > & aCallback )
```

A callback to neatly package the scan results for easy consumption.

##### Parameters

<i>aRoIproxy</i>	The region-proxy containing the clusters
<i>aCallback</i>	The simple callback to be applied

Definition at line 110 of file API.cpp.

Referenced by `AutoRoi_Cluster_SimpleCallback()`, and `ManualRoi_Cluster_SimpleCallback()`.

#### 4.2.1.3 `_FullScanToSimpleScan_()`

```
void _FullScanToSimpleScan_ (
    RoI & aRoI,
    const ScanConfiguration & aScanConfig,
    const tSimpleScanCallback & aCallback )
```

A callback to neatly package the scan results for easy consumption.

## Parameters

<i>aRoi</i>	The region of interest
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The simple callback to be applied

Definition at line 75 of file API.cpp.

Referenced by AutoRoi\_Scan\_SimpleCallback(), and ManualRoi\_Scan\_SimpleCallback().

## 4.2.1.4 \_ScanCallback\_Json\_()

```
void _ScanCallback_Json_ (
    const std::vector< ScanEntry > & aVector,
    const std::string & aInFile,
    const std::string & aOutputPattern )
```

A callback to dump a scan to a JSON file.

## Parameters

<i>aVector</i>	A vector of scan results
<i>aInFile</i>	The name of the localization file
<i>aOutputPattern</i>	The name of the output JSON file

Definition at line 27 of file API.cpp.

Referenced by AutoRoi\_Scan\_ToJson(), and ManualRoi\_Scan\_ToJson().

## 4.2.1.5 AutoRoi\_Cluster\_FullCallback()

```
void AutoRoi_Cluster_FullCallback (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const tFullClusterCallback & aCallback )
```

Automatically extract Roi, clusterize and apply a full call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 163 of file API.cpp.

Referenced by AutoRoi\_Cluster\_SimpleCallback().

#### 4.2.1.6 AutoRoi\_Cluster\_SimpleCallback()

```
void AutoRoi_Cluster_SimpleCallback (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const tSimpleClusterCallback & aCallback )
```

Automatically extract RoI, clusterize and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 169 of file API.cpp.

References \_FullClusterToSimpleCluster\_(), and AutoRoi\_Cluster\_FullCallback().

Referenced by AutoRoi\_Cluster\_ToJson().

#### 4.2.1.7 AutoRoi\_Cluster\_ToJson()

```
void AutoRoi_Cluster_ToJson (
    const std::string & aInFile,
    const double & aR,
    const double & aT,
    const std::string & aOutputPattern )
```

Automatically specify RoI, clusterize and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the RoI id).

Definition at line 175 of file API.cpp.



References `_ClusterCallback_Json_()`, and `AutoRoi_Cluster_SimpleCallback()`.

#### 4.2.1.8 AutoRoi\_Scan\_FullCallback()

```
void AutoRoi_Scan_FullCallback (
    const std::string & aInFile,
    const ScanConfiguration & aScanConfig,
    const tFullScanCallback & aCallback )
```

Automatically extract Roi, run scan and apply a full call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The full callback to be applied

Definition at line 143 of file API.cpp.

#### 4.2.1.9 AutoRoi\_Scan\_SimpleCallback()

```
void AutoRoi_Scan_SimpleCallback (
    const std::string & aInFile,
    const ScanConfiguration & aScanConfig,
    const tSimpleScanCallback & aCallback )
```

Automatically extract Roi, run scan and apply a simple call-back.

##### Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The simple callback to be applied

Definition at line 149 of file API.cpp.

References `_FullScanToSimpleScan_()`.

Referenced by `AutoRoi_Scan_ToJson()`.

#### 4.2.1.10 AutoRoi\_Scan\_ToJson()

```
void AutoRoi_Scan_ToJson (
    const std::string & aInFile,
```

```
const ScanConfiguration & aScanConfig,
const std::string & aOutputPattern )
```

Automatically extract RoI, run scan and dump to JSON file.

#### Parameters

<i>aInFile</i>	The name of the localization file
<i>aScanConfig</i>	The configuration for the scan
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the RoI id).

Definition at line 155 of file API.cpp.

References `_ScanCallback_Json_()`, and `AutoRoi_Scan_SimpleCallback()`.

#### 4.2.1.11 ManualRoi\_Cluster\_FullCallback()

```
void ManualRoi_Cluster_FullCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const tFullClusterCallback & aCallback )
```

Manually specify RoI, clusterize and apply a full call-back.

#### Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 203 of file API.cpp.

Referenced by `ManualRoi_Cluster_SimpleCallback()`.

#### 4.2.1.12 ManualRoi\_Cluster\_SimpleCallback()

```
void ManualRoi_Cluster_SimpleCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const tSimpleClusterCallback & aCallback )
```

Manually specify RoI, clusterize and apply a full call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoi</i>	The manually-specified Roi window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aCallback</i>	The callback to be applied

Definition at line 209 of file API.cpp.

References `_FullClusterToSimpleCluster_()`, and `ManualRoi_Cluster_FullCallback()`.

Referenced by `ManualRoi_Cluster_ToJson()`.

#### 4.2.1.13 ManualRoi\_Cluster\_ToJson()

```
void ManualRoi_Cluster_ToJson (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const double & aR,
    const double & aT,
    const std::string & aOutputPattern )
```

Manually specify Roi, clusterize and apply a full call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoi</i>	The manually-specified Roi window
<i>aR</i>	The R value of the clusterizer
<i>aT</i>	The T value of the clusterizer
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the Roi id).

Definition at line 215 of file API.cpp.

References `_ClusterCallback_Json_()`, and `ManualRoi_Cluster_SimpleCallback()`.

#### 4.2.1.14 ManualRoi\_Scan\_FullCallback()

```
void ManualRoi_Scan_FullCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const ScanConfiguration & aScanConfig,
    const tFullScanCallback & aCallback )
```

Manually specify Roi, run scan and apply a full call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The full callback to be applied

Definition at line 183 of file API.cpp.

#### 4.2.1.15 ManualRoi\_Scan\_SimpleCallback()

```
void ManualRoi_Scan_SimpleCallback (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const ScanConfiguration & aScanConfig,
    const tSimpleScanCallback & aCallback )
```

Manually specify RoI, run scan and apply a simple call-back.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aScanConfig</i>	The configuration for the scan
<i>aCallback</i>	The simple callback to be applied

Definition at line 189 of file API.cpp.

References `_FullScanToSimpleScan()`.

Referenced by `ManualRoi_Scan_ToJson()`.

#### 4.2.1.16 ManualRoi\_Scan\_ToJson()

```
void ManualRoi_Scan_ToJson (
    const std::string & aInFile,
    const ManualRoI & aManualRoI,
    const ScanConfiguration & aScanConfig,
    const std::string & aOutputPattern )
```

Manually specify RoI, run scan and dump to JSON file.

## Parameters

<i>aInFile</i>	The name of the localization file
<i>aManualRoI</i>	The manually-specified RoI window
<i>aScanConfig</i>	The configuration for the scan
<i>aOutputPattern</i>	A formattable-string specifying the name of the output JSON files. Substitutable fields are {input} (giving the stem of the input file name) and {roi} (giving the RoI id).

Definition at line 195 of file API.cpp.

References `_ScanCallback_Json_()`, and `ManualRoi_Scan_SimpleCallback()`.



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