and resampling resolution for raster images. If the `filename` argument is left `unset`, then a sensible filename is generated by the Viewer `tool`. The `dpi` argument allows the caller to specify the resolution of the output.

---

viewercanvasprintmanager.writexpm - Function

Package	**display**
Module	**viewer**
Tool	**viewercanvasprintmanager**

Write an X11 Pixmap file

Synopsis
writexpm(filename)

Arguments

filename	name of file to write Allowed:string or unset Default: unset

Returns
name of file written

Description

This function writes an X11 Pixmap version of the current view on display in the Viewerdisplaypanel `tool` for which this `tool` provides canvas print management facilities. The resultant file is an *exact* copy of the screen display: it is actually written directly from the internal copy of the Viewerdisplaypanel `tool` contents. If the `filename` argument is left `unset`, then a sensible filename is generated by the Viewer `tool`.

1.3.4 viewercolormapmanager - Tool

Package	**display**
Module	**viewer**

Tool for managing colormaps used by the Viewer tool
include "viewercolormapmanager.g"

Constructors

viewercolormapmanager	Create a Viewercolormapmanager `tool`

Functions

colormap	Return a handle to a named colormap
colormapnames	Return the names of the available colormaps
done	Close down (destroy) this Viewercolormapmanager `tool`
getbrightness	Return the brightness setting of a named colormap
getcontrast	Return the contrast setting of a named colormap
getinvertflags	Get the current red, green and blue invert state
gui	Create a new graphical user interface for this `tool`
nmaps	Return the number of colormaps available
reset	reset the named colormap to its default state
resetall	reset all colormaps to initial state
setbrightness	Set the brightness of a named colormap
setcontrast	Set the contrast of a named colormap
setinvertflags	Set the red, green and blue invert state of a colormap
type	Return the type of this `tool`
viewer	Return the Viewer `tool` which manages this `tool`

Description

This `tool` provides services to manage and manipulate colormaps for use by the Viewer `tool`. A colormap, or color look-up table, provides a set of colors which are normally used to represent varying intensity values in false color images (rasters). The Viewercolormapmanager `tool` provides sixteen basic colormaps, amongst them two greyscale-type colormaps and four rainbow-type colormaps. Each Viewer `tool` has one and only one Viewercolormapmanager `tool`, from which it obtains the names of the available colormaps, and also the actual colormaps when they are needed by Viewerdisplaydata `tools`.

Colormaps can be modified in a number of simple ways to achieve quite significant effects. Foremost, colormaps can be "fiddled:" a colormap can be stretched and shifted so that only a fraction of the colormap is actually used for drawing. Secondly, the contrast and brightness of the colors in the map can be modified. Thirdly, the individual red, green and blue components of the map can be independently inverted, leading to completely different colormaps.

Graphical User Interface

The graphical user interface provided by the Viewercolormapmanager `tool` is shown in Figure 1.2.
The left of Viewercolormapmanager `tool` GUI displays a listbox showing primary names of the colormaps known to the Viewer `tool` and therefore to the Viewercolormapmanager `tool`. Once a colormap is selected the sliders on the right-hand side can be used to modify various "fiddle" parameters of the selected colormap. The next three fields underneath can be used to invert the red, green and/or blue components in the selected colormap.
Finally, the `Dismiss` button is provided to remove this GUI from the screen.

viewercolormapmanager - Constructor

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Create a Viewercolormapmanager `tool`

Synopsis
viewercolormapmanager(viewer)

Arguments

viewer	The Viewer `tool` which will use this Viewercolormapmanager `tool` Allowed:Viewer `tool`

Returns
Viewercolormapmanager `tool` or fail

Description

This is the only constructor for Viewercolormapmanager `tools`. It constructs (creates) a Viewercolormapmanager `tool` which can subsequently be used to provide colormaps and colormap editing services to a Viewer `tool`.
This constructor should not be called by users: it is called during construction of the Viewer `tool`. The Viewercolormapmanager `tool` for a given Viewer `tool` can be retrieved by calling its colormapmanager function.

---

viewercolormapmanager.type - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the type of this `tool`

Synopsis
type()

Returns
'viewercolormapmanager'

Description

This function simply returns the string `'viewercolormapmanager'`, which can be used to identify this `tool` as a Viewercolormapmanager `tool`. It is generally reserved for internal use.

---

viewercolormapmanager.viewer - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the Viewer `tool` which manages this `tool`

Synopsis
viewer()

Returns
Viewer `tool`

Description

This function simply returns the Viewer `tool` which uses this Viewercolormapmanager `tool`, and probably constructed it. It is generally reserved for internal use.

viewercolormapmanager.done - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Close down (destroy) this Viewercolormapmanager `tool`

Synopsis
done()

Returns
T

Description

If you no longer need to use this Viewercolormapmanager `tool`, calling this function will free up its resources. Any graphical user interfacesassociated with this `tool` will be removed from the screen.
It is unwise to close down a Viewercolormapmanager `tool` by an explicit call to this function. It is generally reserved for internal use by the Viewer `tool` which uses this Viewercolormapmanager `tool`.

---

viewercolormapmanager.gui - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Create a new graphical user interface for this `tool`

Synopsis
gui(parent, show, hasdismiss, hasdone, widgetset)

Arguments

parent	parent frame for GUI Allowed:agent or F Default: F
show	map the GUI to the screen immediately? Allowed:Boolean Default: T
hasdismiss	place a 'Dismiss' button in the GUI? Allowed:Boolean Default: F
hasdone	place a 'Done' button in the GUI? Allowed:Boolean Default: F
widgetset	Widgetserver `tool` to use for the GUI Allowed:Widgetserver `tool` Default: dws

Returns
`tool` having Viewerstandardgui interface

Description

Calling this function will create and return a new GUI which can be used to view and edit the colormaps that are provided by this Viewercolormapmanager `tool`. By judicious use of the function arguments, the graphical user interface can optionally be placed within existing frames, and left off-screen for later use. The interface of the return value conforms to the Viewerstandardgui interface.

---

viewercolormapmanager.colormapnames - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the names of the available colormaps

Synopsis
colormapnames()

Returns
vector of strings

Description

This function should be used to obtain a list of the colormaps that are available for use. The names can then be used to actually get hold of the colormaps themselves.

---

viewercolormapmanager.colormap - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return a handle to a named colormap

Synopsis
colormap(name)

Arguments

name	name of requested colormap Allowed:string

Returns
colormap agent or fail

Description

This function can be used to get hold of a specific colormap agent. Once again, this is generally only used internally.

---

viewercolormapmanager.nmaps - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the number of colormaps available

Synopsis
nmaps()

Returns
integer

Description

This function simply returns the number of colormaps that it is presently managing.

---

viewercolormapmanager.getbrightness - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the brightness setting of a named colormap

Synopsis
getbrightness(name)

Arguments

name	name of colormap to query Allowed:string

Returns
float or fail

Description

This function returns the current brightness setting (in the range 0 to 1) of the named colormap.

---

viewercolormapmanager.setbrightness - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Set the brightness of a named colormap

Synopsis
setbrightness(name, value)

Arguments

name	name of colormap to modify Allowed:string
value	new brightness value Allowed:float in range 0 to 1

Returns
T or fail

Description

This function sets the brightness of the named colormap to the specified value.

---

viewercolormapmanager.getcontrast - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Return the contrast setting of a named colormap

Synopsis
getcontrast(name)

Arguments

name	name of colormap to query Allowed:string

Returns
float or fail

Description

This function returns the current contrast setting (in the range 0 to 1) of the named colormap.

---

viewercolormapmanager.setcontrast - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Set the contrast of a named colormap

Synopsis
setcontrast(name, value)

Arguments

name	name of colormap to modify Allowed:string
value	new contrast value Allowed:float in range 0 to 1

Returns
T or fail

Description

This function sets the contrast of the named colormap to the specified value.

---

viewercolormapmanager.getinvertflags - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Get the current red, green and blue invert state

Synopsis
getinvertflags(name)

Arguments

name	name of colormap to query Allowed:string

Returns
vector of booleans or fail

Description

This function returns a length 3 vector describing whether the red, green and blue components of the named colormap are inverted (T) or not (F).

---

viewercolormapmanager.setinvertflags - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

Set the red, green and blue invert state of a colormap

Synopsis
setinvertflags(name, value)

Arguments

name	name of colormap to modify Allowed:string
value	length 3 vector describing invert state Allowed:vector of booleans

Returns
T or fail

Description

This function sets the red, green and blue component invert states for the named colormap to those specified in the given length 3 vector.

---

viewercolormapmanager.reset - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

reset the named colormap to its default state

Synopsis
reset(name)

Arguments

name	name of colormap to restore to initial state Allowed:string

Returns
T or fail

Description

This function returns the contrast and brightness settings of the named colormap to 0.5, and sets each of the invert "flags" to F.

---

viewercolormapmanager.resetall - Function

Package	**display**
Module	**viewer**
Tool	**viewercolormapmanager**

reset all colormaps to initial state

Synopsis
resetall()