⊟ Radial

Version 1.1.2, by Giorgio Bianchini

Description: Computes the coordinates for a radial tree.

Module type: Coordinate

Module ID: `95b61284-b870-48b9-b51c-3276f7d89df1`

This module computes coordinates for the nodes of the tree in a "radial" style. The root node of the tree is placed at the center of the tree, and branches expand from it in a way that makes sure they do not intersect with each other.

For the default value of the parameters below, let n be the number of taxa (i.e. leaves) in the tree.

Parameters

Width

Control type: Number spin box

Default value: 14 $\cdot n$

Range: [0, +∞)

This parameter determines the width of the area covered by the tree.

Height

Control type: Number spin box

Default value: 14 $\cdot n$

Range: [0, +∞)

This parameter determines the height of the area covered by the tree.

Preserve aspect ratio

Control type: Check box

Default value: Unchecked

If this check box is checked, the tree is stretched uniformly to fill the area specified by the

[Width](#) and [Height](#); otherwise, the aspect ratio of the tree is not preserved. This has the effect that branches with the same length may appear to have a different length in the plot.

Start angle

Control type: Slider

Default value: 0°

Range: [0°, 360°]

This parameter determines the angle for the first split in the tree. Changing it has the effect of rotating the tree.

Sweep angle

Control type: Slider

Default value: 360°

Range: [1°, 360°]

This parameter determines the angular size of the tree.

Coordinate shift

Control type: Drop-down list

Default value: None

Possible values:

- None
- Relative
- Absolute

This parameter determines the kind of coordinate shift that is applied. If the value is `None`, no coordinate shift is applied. If the value is `Relative`, the coordinates for each point are shifted by the amount specified by the selected [X](#) and [Y](#) attributes, relative to their default position. If the value is `Absolute`, the coordinates are set to the value specified by the selected [X](#) and [Y](#) attributes, regardless of their default position.

X shift

Control type: Check box

Default value: Unchecked

If this check box is checked, the X coordinates of the tree nodes are shifted. Otherwise, they are left as is.

X attribute

Control type: Attribute selector

Default value: Length

This parameter determines the attribute used to shift the X coordinate of the points.

Y shift

Control type: Check box

Default value: Unchecked

If this check box is checked, the Y coordinates of the tree nodes are shifted. Otherwise, they are left as is.

Y attribute

Control type: Attribute selector

Default value: Length

This parameter determines the attribute used to shift the Y coordinate of the points.

Custom script

Control type: Source code

Default value:

```
using PhyloTree;
using System.Collections.Generic;
using TreeViewer;
using VectSharp;

namespace a530984941a744b8095cfe8592de0528a
{
    //Do not change class name
    public static class CustomCoordinates
```

```
    {
        //Do not change method signature
        public static void GetCoordinates(TreeNode tree, ref
 Dictionary<string, Point> coordinates)
        {
            //TODO: change the coordinate values contained in
 the coordinates dictionary
        }
    }
 }
```

This script can be used to modify the coordinate values.

Apply

Control type: Button

This button applies changes to the other parameter values and signals that the tree needs to be redrawn.

Further information

This code is based on the algorithm used by [FigTree](#), which is available under a GPLv2 licence [here](#).

Here is an example of a tree drawn using radial coordinates: