

Package ‘sync3d’

September 12, 2026

Type Package

Title Synchronized 3D Vector and Marker Animations in 'Plotly'

Version 0.1.1

Description Provides a domain-agnostic visualization utility designed to bypass structural rendering limitations within multi-trace three-dimensional animations in 'Plotly' by implementing a decoupled rendering pipeline. Computational processing of time-dependent physical states (markers and nodes) is managed within the R environment, while a custom hardware-accelerated 'WebGL' injection handles the synchronous rendering of complex topological frameworks (lines and edges) directly within the 'UI' browser interface via 'htmlwidgets'. This dual-layer architecture ensures smooth execution of synchronized multi-component 3D animations without framework degradation or controller loss.

License GPL-3

Encoding UTF-8

Imports htmlwidgets, plotly

Config/roxygen2/version 8.1.0

Suggests knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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`add_synchronized_3d_edges`*3D Visualization Utility for Synchronizing Edges with Animated Markers*

Description

3D Visualization Utility for Synchronizing Edges with Animated Markers

Usage

```
add_synchronized_3d_edges(base_plot, edge_indices)
```

Arguments

<code>base_plot</code>	An animated plotly 3D scatter plot (Trace 0).
<code>edge_indices</code>	A matrix or data frame with 'from' and 'to' columns.

Value

An expanded plotly widget with synchronized WebGL lines.

Examples

```
# Server-safe infrastructure test without generating interactive 'UI' windows
library(plotly)
mock_plot <- plot_ly()
mock_edges <- matrix(c(1, 2), ncol = 2)
tested_utility <- add_synchronized_3d_edges(mock_plot, mock_edges)
```

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