

Scientific WorkPlace[®] Scientific Word[®]

- Mathematical Word Processing
- L^AT_EX Typesetting
- Computer Algebra



Includes the Beamer Package for slide presentations

The image shows two windows from the Scientific WorkPlace software. The left window displays a 3D plot of a cone-like surface with a grid, and text instructions for creating animated plots in cylindrical and spherical coordinates. The right window shows a Beamer presentation slide with a 3D plot of a sphere and a table of coordinates.

To make a parametric animated plot in cylindrical coordinates

1. Type an expression of the form $(r(u,v,t), \theta(u,v,t), z(u,v,t))$
2. With the insertion point in the expression, choose **Plot 3D Animated + Cylindrical**.

The next example shows a cone being generated as the line $z = r$ is rotated about the z -axis with intervals $0 \leq r \leq 1$, $0 \leq \theta \leq 1$, and $0 \leq t \leq 1$.
The View Orientation is Turn: 20, Tilt: 40.

Plot 3D Animated + Cylindrical

$(-1 + 2r, 2ztz, -1 + 2r)$

Animated plots in spherical coordinates

To make an animated plot in spherical coordinates

1. Type an expression in three variables.
2. With the insertion point in the expression, choose **Plot 3D Animated + Spherical**.

The next example shows a sphere that grows from radius 1 to radius 2.

Plot 3D Animated + Spherical

Current View	
FaceAtPointX	0
FaceAtPointY	0
FaceAtPointZ	0
KeepUpVector	<input type="checkbox"/>
OrthogonalProject	<input type="checkbox"/>
PositionX	1.53137
PositionY	-1.30269
PositionZ	3.89102
UpVectorX	2.20142
UpVectorY	1.08891
UpVectorZ	3.95911
ViewingAngle	0.795399

The Gold Standard for Mathematical Publishing

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