

Scientific WorkPlace[®] Scientific Word[®]

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



Includes the
Beamer Package
for slide
presentations

The image shows two overlapping windows from the Scientific WorkPlace software. The left window displays a 3D plot of a cone and a sphere, with a user guide overlay. The right window shows a 3D plot of a cone and a sphere, with a 'Current View' panel on the right side containing technical data.

Scientific WorkPlace - [C:\swp\55\3D-ImplicitPlots.tex]

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

$(-1 + 2r, 2\pi t, -1 + 2r)$

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.

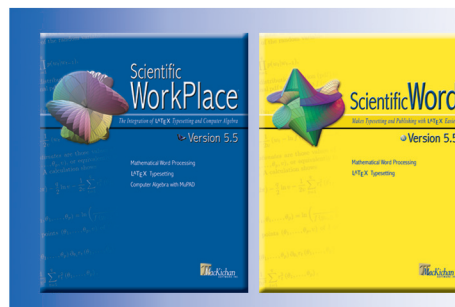
Plot 3D Animated + Spherical

WCam - [Graphics in 3D-ImplicitPlots.tex]

Current View	
FocusPointX	0
FocusPointY	0
FocusPointZ	0
KeepJpVector	—
OrthogonalProjec...	—
PositionX	1.93137
PositionY	-1.30269
PositionZ	3.89102
UpVectorX	2.96142
UpVectorY	1.02691
UpVectorZ	3.99911
ViewingAngle	0.785398

The Gold Standard for Mathematical Publishing

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