Data Sheet

DigitalSky 2 2D and 3D Custom Data Functions

DigitalSky 2
Full Dome software

The same engine that drives the built-in components of DigitalSky 2 is expandable by the user for adding in their own data. Customers wanting their own images on the screen—whether those images are 2D or 3D objects—can create a simple button to bring in those objects and control the way they look on the dome. The same tools to navigate and explore planets and stars can view subatomic particles, molecular level objects, or any other 3D data. 2D video, images, and text are also importable and positionable in 3D space. A built-in text system automatically controls fonts and can position text to remain readable while the view changes perspective on nearby objects.

OPEN ARCHITECTURE

The software has been built for simple access to data. Adjusting data that can be shown in the dome is directly accessible through scripts referencing DirectX models. Lighting, textures, and animation are all available to add realism or other desired effects through commands that specify the location of texture maps, lights in 3D space, and animation motion keyframes.

APPLICATIONS

Visualizations of all types benefit from the large screen space of the dome environment. An immersive experience into the data is shared by the audience. The high resolution of definiti theaters running DigitalSky 2 means images and especially complex 3D models are easily understood rather than crowding the limited size of a computer screen or other visualization tools.

Scientific analysis of the microscopic universe is available. Complicated relationships between particles can be studied up close and from any angle. Use of colors and text labels assists the understanding of the data and can be manipulated with DigitalSky 2's controls. "Flying" around datasets in 3D is possible and easy to learn using simple mouse driven controls.

Import Functionality Major Components:

2D

Still images: all major formats

Video with sound: all major formats

Alpha channel support

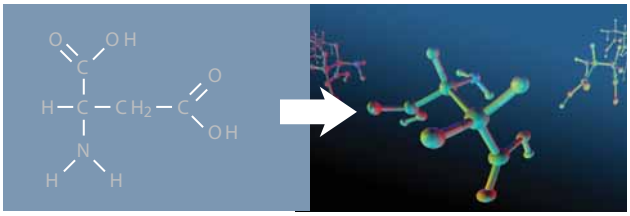
Text: built-in or import

3D

All major formats through translation to DirectX models

Textures

Lighting



More scientific images on page 2

created for definiti THEATERS

VISUALIZATION SPECIFICATIONS

3D FORMATS (NATIVE)	DirectX with textures (video and still), legacy VLA parametric
3D FORMATS (IMPORT)	translation to DirectX from major 3D formats available
VIEW 3D OBJECTS IN REAL-TIME	fully fuctional
2D FORMATS (NATIVE)	BMP, TGA, JPEG, DDS, PNG; alpha transparency support
2D FORMATS (IMPORT)	translation of other image formats available
VIDEO FORMATS	AVI, MPEG, VOB, WMV, uncompressed video with alpha channel support

RENDERING NECESSARY FOR IMPORTED DATA?	no rendering necessary (data is shown in real-time)
LAYERING	yes
BLENDING	yes
COLOR CONTROL	yes, RGB editing of imported graphics
BUILT-IN GRAPHICS	lines, circles, and text are built-in
BUILT IN DOME DISTORTIONS?	yes; including rectilinear, fisheye, and panorama

*** more information on reverse side**

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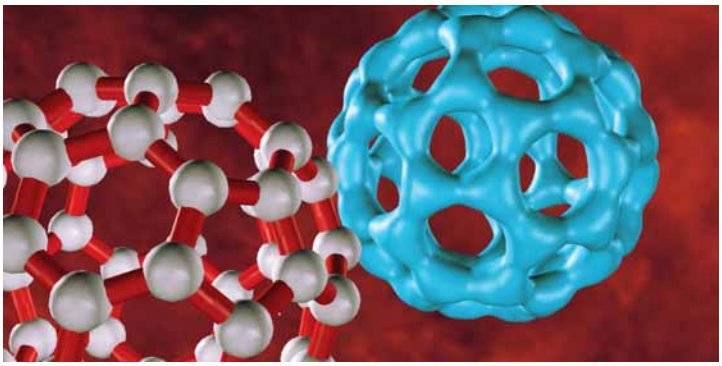
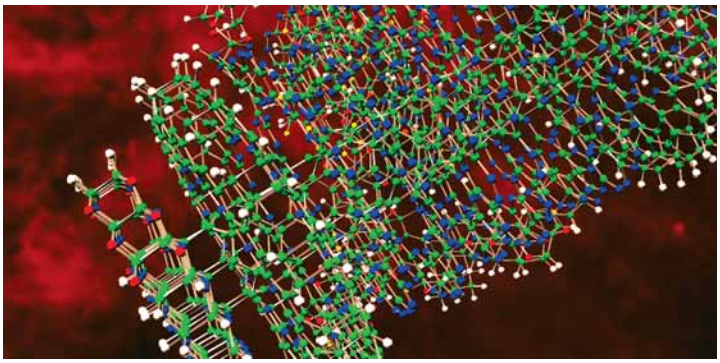
DigitalSky 2 2D and 3D Custom Data Functions

All images directly from DigitalSky 2 in real-time (no rendering necessary).

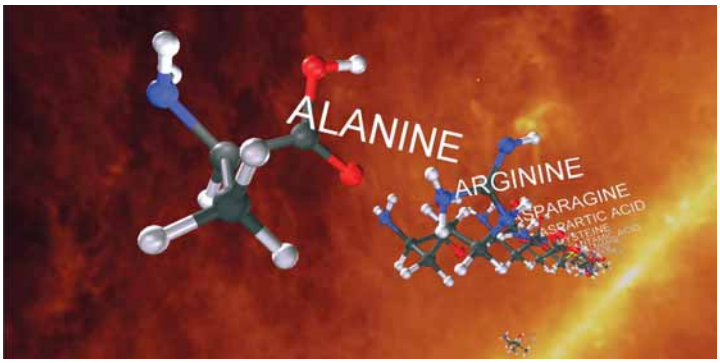
All models on this page are included in DigitalSky 2's data set.



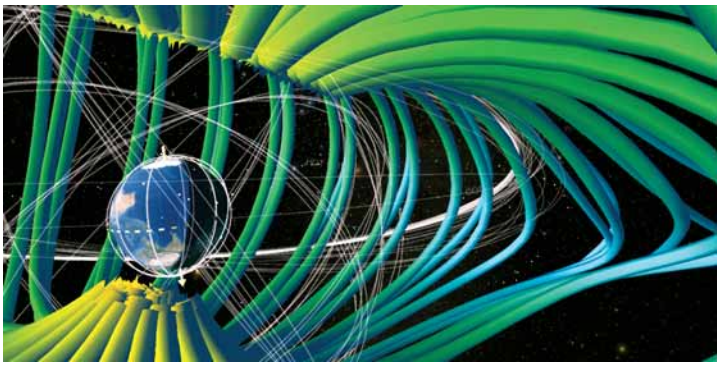
Buckyball
Model courtesy Pierre Boulanger



Nano Model
Model courtesy Curtin University, Perth, Western Australia



Amino Acids
Model courtesy Glendale Community College, California



Earth's magnetosphere model courtesy of Pierre Boulanger, Professor/iCORE Industrial Chair, University of Alberta, Canada

Satellite trails shown here are part of DigitalSky 2's standard data.