SBMT

Importing Custom Data



This SBMT tutorial explains how to:

- Import a custom shape model.
- Import custom images.
- Import custom altimetry tracks.

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- Import custom images.
- Import custom altimetry tracks.

Adding a new custom shape model

- Users can import custom shape models of their choice (e.g., add a body that doesn't exist in the SBMT or add a different model for an existing body).
- Custom shape models have some, but not all, of the functionality available for built-in bodies (e.g., the structures tab works, but spacecraft data are not available unless imported as custom data).

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To add a custom shape model, click on "Body" → "Custom Shape Models" → "Import Shape Models...". This will open a dialog box (see next slide).

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ape Models.



Import Shape Models	
	New
	Edit
	Duplicate
	Remove
	Close

Click "New..." to add a new custom shape model.

Click "Edit..." to edit an existing custom shape model.

Click "Duplicate..." to duplicate an existing custom shape model.

Click "Remove" to remove an existing custom shape model.

Click "Close" to close the dialog box.

0.0.0	Import Shape Models	
• • •	Import New Shape Model	
Name	Janus	
Ellipsoid Shape Model		
Equatorial Radius - X (km)	1000	
Equatorial Radius - Y (km)	1000	
Polar Radius – Z (km)	1000	
Resolution	360	
Custom Shape Model		
Path	:essing/SATURN/JANUS/SHAPEFILES/JANUS.OBJ	Browse
Format	OBJ	
	Cancel OK	
	Close	

Clicking "New" opens this dialog.

Give the body a name (e.g., Janus).

000	Import Shape Models	
• • •	Import New Shape Model	
Name	Mercury	_
Ellipsoid Shape Model		
Equatorial Radius – X (km)	2440	
Equatorial Radius – Y (km)	2440	
Polar Radius – Z (km)	2440	
Resolution	360	
Custom Shape Model		_
Path		Browse
Format	PDS 0	
	Cancel OK	
	Close	

Users can create a triaxial ellipsoid to represent a ellipsoidal body, such as Mercury. The default resolution of 360 works well in most cases.

0 0 0	Import Shape Models	
• • •	Import New Shape Model	
Name	Janus	
Ellipsoid Shape Model		
Equatorial Radius - X (km)	1000	
Equatorial Radius - Y (km)	1000	
Polar Radius – Z (km)	1000	
Resolution	360	
 Custom Shape Model 		
Path	:essing/SATURN/JANUS/SHAPEFILES/JANUS.OBJ	Browse
Format	OBJ 😌	
	Cancel OK	
	Close	

Alternatively, users can import a 3D shape model in PDS, OBJ, VTK, or FIT formats. Use the "Browse..." button to navigate to the file to be imported, and use the "Format" dropdown menu to select the correct file format.

		1	
0.0.0	Import Shape Models		
• • •	Import New Shape Model		
Name	Janus		
Ellipsoid Shape Model			
Equatorial Radius - X (km)	1000		
Equatorial Radius – Y (km)	1000		
Polar Radius – Z (km)	1000		
Resolution	360		
 Custom Shape Model 			
Path	:essing/SATURN/JANUS/SHAPEFILES/JANUS.OBJ	Browse	
Format	OBJ		
	Cancel OK Close		Click "OK" to finish.

	Import Shape Models		
Janus		New	
		Edit	
		Duplicate	
		Remove	
		Close	Clio Sha

Click "Close" to close the Import Shape Models dialog.

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Shape Models..

To see the newly added body, click on "Body" \rightarrow "Custom Shape Models" \rightarrow and then the name of the custom shape model (Janus, in this case.)

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		rainbow				
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SBMT - Custom > Janus

The body now appears in the rendering panel. The control panel has the main body tab, the structures tab, custom data tab, and regional DTMs tab.



Note: Custom models do not have standard plate colorings, but users can use the "Customize Plate Coloring..." option to add their own plate colorings.

This SBMT tutorial explains how to:

- Import a custom shape model.
- Import custom images.
- Import custom altimetry tracks.

Adding custom images

- Users can import custom images for bodies that already exist in the SBMT (e.g., to visualize an image that the user has stretched or processed).
- Users can also import custom images to see images on bodies that the user imported as a custom shape model (see previous section of this tutorial).
- The process is the same in either case.



SBMT - Custom > Janus

Go to the "Custom Data" tab. It has two parts: images (for importing images) and tracks (for importing altimetry tracks).



Band: 0				
New	Edit	Move Up	Move Down	
Delete fr	om List	Remove All From	m View	





	Import New Image	
Image Path		Browse
Name		
Image Type	GENERIC_IMAGE	
Image Rotate	0 0	
Image Flip	None O	
 Simple Cylindrical Projection 		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
O Perspective Projection		
Sumfile Path		Browse
Infofile Path		Browse
	Cancel OK	

Click "Browse" and navigate to the image to be imported.

	Import New Image	
Image Path		Browse
Name		
Image Type	GENERIC_IMAGE	
Image Rotate	0	
Image Flip	None 0	
 Simple Cylindrical Projection 		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
O Perspective Projection		
Sumfile Path		Browse
Infofile Path		Browse
	Cancel OK	

Give the image a name.

• •	Import New Image	
Image Path		Browse
Name		
Image Type	GENERIC_IMAGE	
Image Rotate	0 0	
Image Flip	None 🗘	
 Simple Cylindrical Projection 		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
OPerspective Projection		
Sumfile Path		Browse
Infofile Path		Browse
	Cancel OK	

GENERIC_IMAGE is currently the only option. Users can import JPG or PNG files. Support for other file types may be forthcoming.

. • • •	Import New Image	
Image Path		Browse
Name		
Image Type	GENERIC_IMAGE	
Image Rotate	0 0	
Image Flip	None 🗘	
 Simple Cylindrical Projection 		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
O Perspective Projection		
Sumfile Path		Browse
Infofile Path		Browse
	Cancel OK	

Users can choose to show the image using either a simple cylindrical projection or a perspective projection.

To use a simple cylindrical projection, ensure the image to be imported is in that projection. Then specify the latitude and longitude of two corners of the image, as requested.

	Import New Image		
Image Path	TESTPIC.jpg	Browse	
Name	TESTPIC.jpg		
Image Type	GENERIC_IMAGE		
Image Rotate	0		
Image Flip	None 😳		
O Simple Cylindrical Projection			
Lower Left Latitude	-90.0		
Lower Left Longitude	0.0		
Upper Right Latitude	90.0		
Upper Right Longitude	360.0		
Perspective Projection			
Sumfile Path	N1711579429.SUM	Browse	
Infofile Path		Browse	
	Cancel OK		

To use a perspective projection, the user must provide a file with pointing information. The SBMT accepts two types of files that contain such information: sumfiles and infofiles. Users need to provide one of these, not both.

Users can export an info file for any image already in the SBMT. Please see the "Searching for Data" tutorial for details.

	Import New Image	
Image Path	TESTPIC.jpg	Browse
Name	TESTPIC.jpg	
Image Type	GENERIC_IMAGE	
Image Rotate	0	
Image Flip	None 😌	
O Simple Cylindrical Projection		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
Perspective Projection		
Sumfile Path	N1711579429.SUM	Browse
Infofile Path		Browse
	Cancel OK	

If the user chooses a perspective projection, the user can also specify an image rotation or flip, which in some cases may be needed in order for the image to display correctly on the body.

Leave these unchanged if unsure whether the image to be imported needs to be rotated or flipped.

• •	Import New Image	
Image Path	TESTPIC.jpg	Browse
Name	TESTPIC.jpg	
Image Type	GENERIC_IMAGE	
Image Rotate	0 🔁	
Image Flip	None 🗘	
Simple Cylindrical Projection		
Lower Left Latitude	-90.0	
Lower Left Longitude	0.0	
Upper Right Latitude	90.0	
Upper Right Longitude	360.0	
Perspective Projection		
Sumfile Path	N1711579429.SUM	Browse
Infofile Path		Browse
	Cancel OK	

...

Band: 0

New....

Delete from List

Edit...

Re

Janus

TESTPIC.jpg, Perspective, GENERIC_IMAGE, Rotate 0.0, Flip None

Structures Custom Data Regional DTMs

Images Tracks

SBMT - Custom > Janus

The image is listed in the control panel. Right-click and select "Map Image" to display the image on the body.

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Move Up Move Down	click on an image the "Searching for
emove All From View	the Searching for

Note: The menu that appears when users right-clicks on a custom image contains many of the same options as the menu that appears when users rightclick on an image built in to the SBMT. Please see the "Searching for Data" tutorial for details.



Clicking "edit" re-opens the dialog used to import the image. Users can make any needed changes, such as flipping or rotating an image so it displays correctly on the body.

		SBMT - Custom > Janus
1	Janus Structures Custom Data Regional DTMs	
	Images TESTPXC.jpg, Perspective, GENERIC_IMACLE, Rotate 0.0, Flip None Band: 0 New Edit Move Up Move Down	Use "Delete from List" to rer selected image from the list imported images. Use "Rem From View" to hide all image
	Delete from List Remove All From View	keep them in the image list.

Use "Delete from List" to remove the selected image from the list of imported images. Use "Remove All From View" to hide all images but keep them in the image list.

This SBMT tutorial explains how to:

- Import a custom shape model.
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Importing custom altimetry tracks

- Users can import custom altimetry tracks for bodies that already exist in the SBMT (e.g., to load a track that the user has processed in some way).
- Users can also import for custom bodies created using the "Import Custom Bodies..." feature.
- The process is the same in either case.



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Click "Load Tra
to be imported. Type" menu to a to be imported.
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Click "Load Tracks" and navigate to the file to be imported. Use the dropdown "File Type" menu to specify the format of the file to be imported.

Range: 74.572 km

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	SBMT - Asteroids > Near-Earth > 433 Eros > Image-based > Gaskell (2008)
433 Eros MSI NIS NLR Lineament Structures Custom Data I Images Tracks	
Tracks	
Load Tracks File Type: Time, Lidar (X,Y,Z), S/C (SCx, SCy, SCz)	
Hide Track # pts Start Time End Time Trk 0 12883 2000-07-21T13:23:26.771000 2000-07-21T15:10:47.769000	The track now appears in the file list and
	appears on the body.
	Contract of the second s
	and the second
	Constraint and the second s
Hide All Show All Remove All	
Translation	
Translate All Tracks Drag Tracks	Note: The menu that appears when users right-clicks on a
Properties	imported altimetry track contains many of the same
Radial Offset	
Reset	options as the menu that appears when users right-click
Point Size: 8 0	on an altimetry track built in to the SBMT. Please see the
Show Error	"Searching for Data" tutorial for details.

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433 Eros MSI NIS NLR Lineament Structures Custom Data	
Images Tracks	
Tracks	
Load Tracks File Type: Time, Lidar (X,Y,Z), S/C (SCx, SCy, SCz)	
Hde Track # pts Start Time End Time	
Trk 0 12883 2000-07-21T13:23:26.771000 2000-07-21T15:10:47.769000	
	-004
	and the second
Hide All Show All Remove All	~~252111121994,
Translation	
Translate All Tracks Drag Tracks	
Properties	These features are identical to the ones in
Radial Offset	
	the NLR or LIDAR tabs or Eros or Itokawa,
Reset	$\frac{1}{10000000000000000000000000000000000$
	respectively. Please see the "Searching for
Point Size: 8 0	respectively. Please see the "Searching for
Show Error	
	Data" tutorial for details.
Ready.	Range: 74.581 kr

SBMT

For more information, visit sbmt.jhuapl.edu.

