

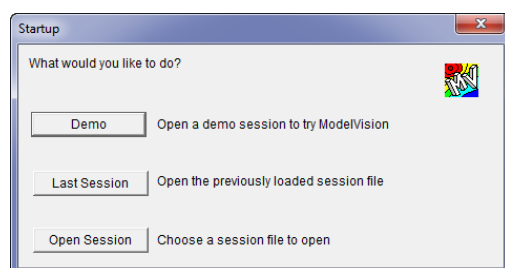
Encom ModelVision v11.0

The release of Encom ModelVision 11.0 contains a range of enhancements to the already powerful collection of tools available in this magnetic and gravity modelling package. Major enhancements include new body types for joint inversion, direct inversion of the resultant magnetisation vector in both standard and joint inversion plus the new magnetic moment remanence calculator tool. The user interface has also been improved to provide a more intuitive workflow. The AutoMag options has been upgraded to filter overlapping solutions which greatly enhances the interpretation speed.

More details on the new Encom ModelVision features follow.

Start-up

When ModelVision is now started from the desktop icon or Start menu a wizard dialogue is presented to the user providing them with a range of options on how to proceed with using ModelVision. One of these options is to open a newly implemented default session, designed to introduce new users of the software to how to model line data in both 2D map and cross-section views. Other options include opening the last session used, opening a new session and opening a new project.



The start-up prompt for ModelVision.

The first two ModelVision tutorials are now accessed from the File menu.

Modelling

LINE CONTROL

Operation of the Line Control dialogue, accessed from the Model menu has been improved by providing direct access to related parameters, previously accessed from other menu items. Parameters now accessed from the Line Control dialogue include:

Calculate Regional – allows the calculation of magnetic or gravity regional based upon a series of survey lines.

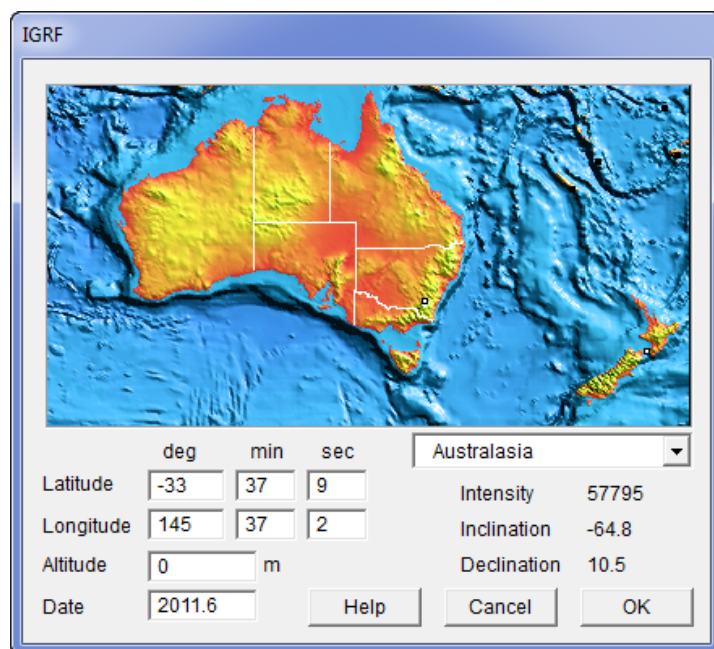
Magnetic Field (IGRF) – allows the calculation of the magnetic field intensity, inclination and declination from latitude and longitude.

X-Section defaults – provides access to default settings for the display of profiles in cross-section views. E.g. body display mode, name of modelled curve and line thickness and colour for curves.

Model Parameters – provides access to the Model Parameters dialogue which contains default settings for background properties, default model property values and polygroup body settings.

IGRF CALCULATOR UPGRADE

The IGRF calculator, accessed from the Magnetic Field dialogue in ModelVision has been updated so as to be consistent with the latest IAGA global standard IGRF10.

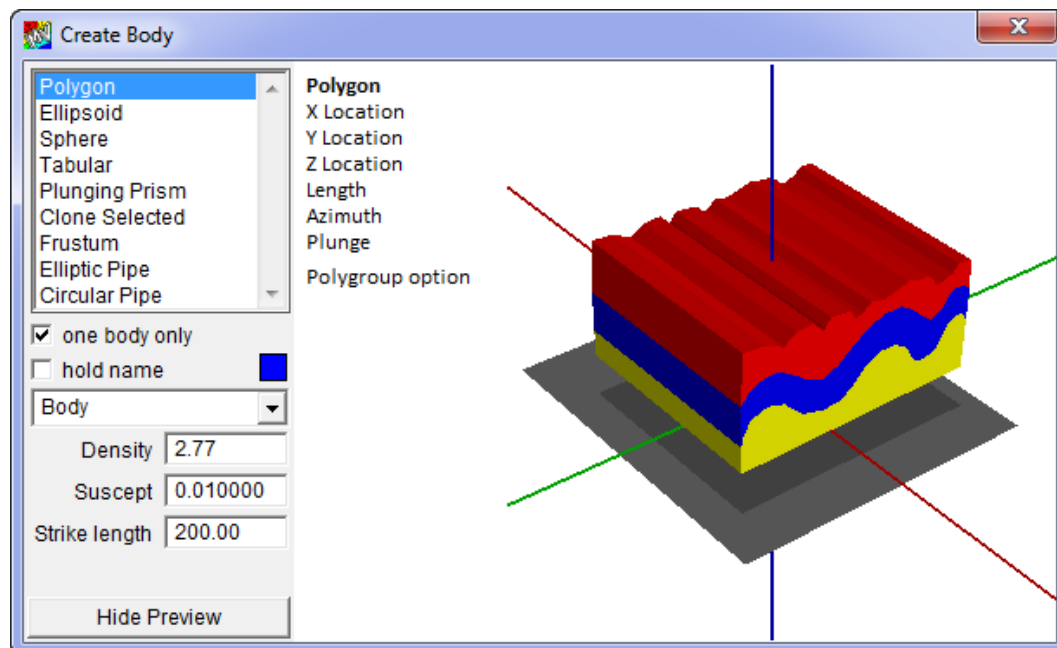


The IGRF Calculator dialogue.

CREATE BODY

The Create Body dialogue, accessed from the Model>Body Operations menu or the main toolbar, has been given a fresh look. It now provides 3-dimensional previews of each body type available.

The available parameters for each body type are now displayed within the preview, allowing the user to understand which parameters can be edited whilst modelling.



Create Body dialogue for a polygonal body type.

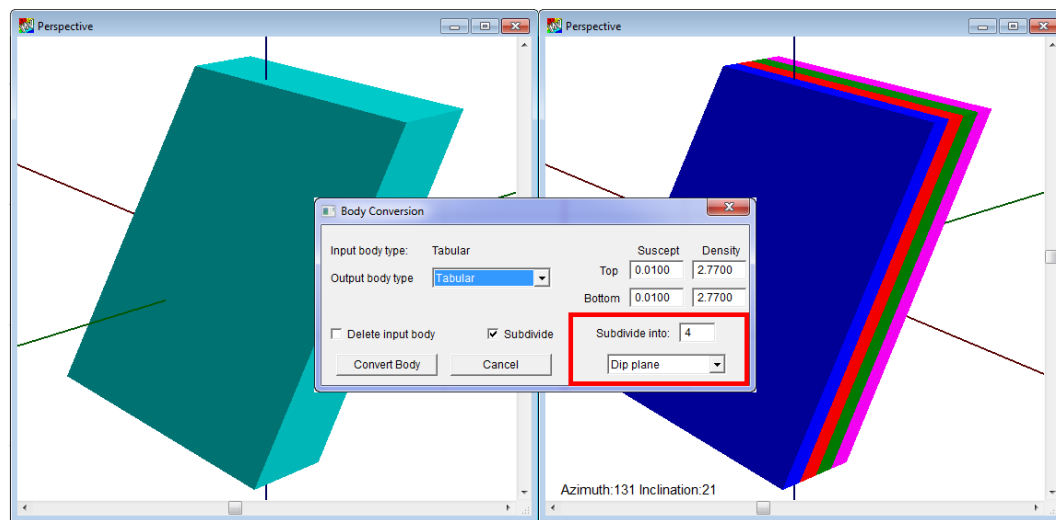
BODY PROPERTIES

An auto-apply check box has been added to the Body Properties dialogue, which allows for a more streamlined editing process while performing forward modelling.

The Body Conversion button, previously called "Body Type", available from the Body Properties dialogue has been renamed to "Convert Body". This provides access to the Body Conversion dialogue, which allows the user to change body types and sub-divide a body.

BODY CONVERSION

In the Body Conversion dialogue, sub-division on dip, strike and horizontal planes has been implemented for tabular bodies.



Before and after Perspective views of a tabular body sub-divided by the dipping plane.

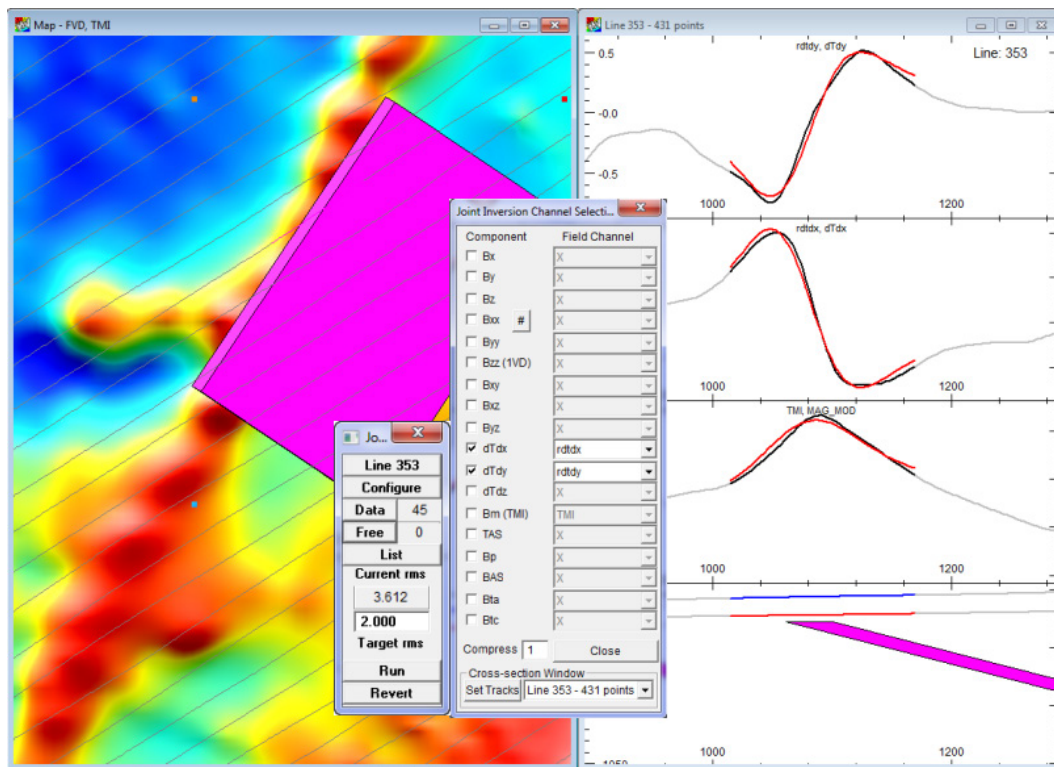
Inversion Modelling

INVERSION

Standard inversion now supports direct inversion on the resultant magnetisation vector which is a much more robust parameter than the remanent magnetic vector. You fix the magnetic susceptibility while performing the inversion on the resultant magnetisation vector. Use of this style of inversion greatly improves the geometry that can be derived from isolated magnetic anomalies.

JOINT INVERSION

The Plunging Prism and Frustum body types are now supported in joint inversion. There is now support for the resultant magnetisation vector direction and amplitude while using joint inversion.



Example joint inversion dataset showing channel selection and modelling.

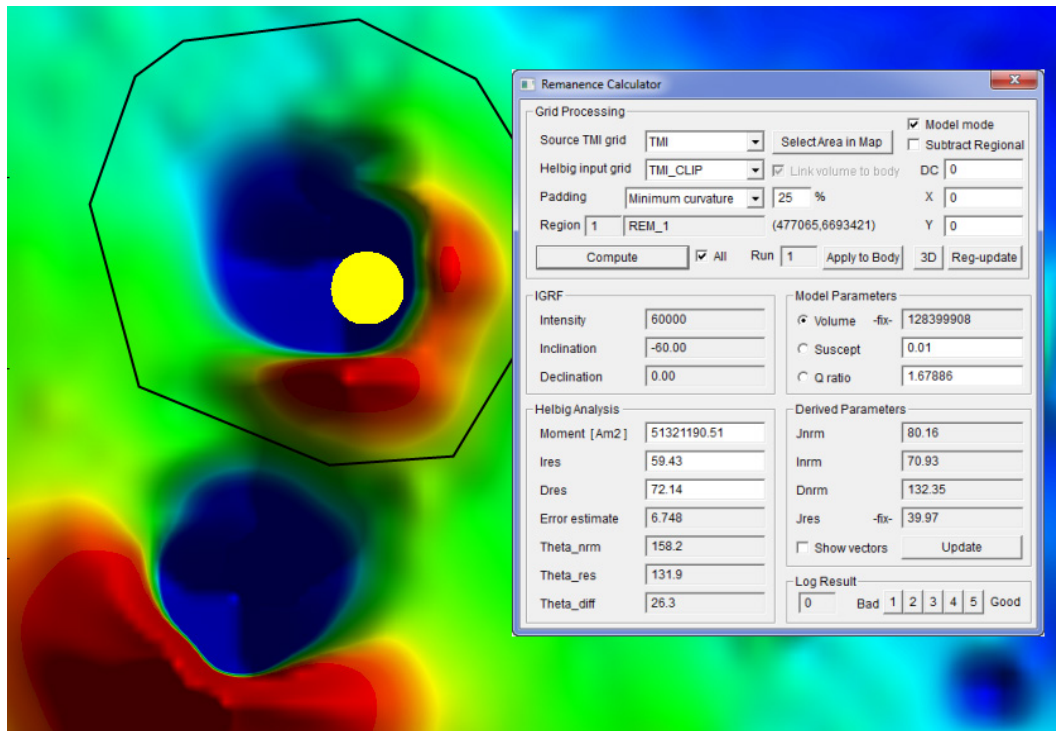
Limits on the number of bodies and free parameters that can be used during joint inversion have been increased as follows:

- 200 non-polygonal bodies
- 16 polygonal bodies
- 800 free parameters
- 8 data channels
- 2048 points per channel
- 100 vertices per polygonal body
- 1440 facets per polyhedron

NEW REMANENCE CALCULATOR

A new tool has been introduced called Remanence Calculator which provides a direct method for the estimation of the resultant magnetisation for an isolated magnetic anomaly. The Remanence Calculator performs a sequence of magnetic moment analyses (Helbig, 1963; Schmidt and Clark, 1998) on one or more magnetic anomalies present in a total magnetic intensity (TMI) grid. Most importantly, the initial values calculated by the Remanence Calculator can be used to seed and constrain ModelVision inversion to produce more reliable estimates of dip and geological boundaries. This

method provides an independent methodology for confirmation of the resultant magnetisation direction derived from inversion.



Importing Data

The import of Geosoft databases into ModelVision has been improved to allow for the re-ordering of channels within the import dialogue.

Filtering

LINE FILTERS

The Line Filter output units have been changed with defaults now in units/m rather than units/km.

Optional Modules

AUTOMAG

The Solution Filter dialogue for the AutoMag module of ModelVision has been improved to allow the selection of the best solution where multiple solutions occur within a specified window distance. This process greatly reduces the amount of work required to produce a quality set of depth points in a large dataset, effectively providing a 200% productivity gain for large surveys.

The AutoMag menu option and sub-options have been removed from the Model menu. AutoMag is now only accessible from the Tools and Modules menu. Sub-options are now only available from the AutoMag option in the Modules menu.

UBC MODEL-MESH DESIGNER

Output UBC-GIF gravity data files from the UBC Model-Mesh Designer module of ModelVision are now automatically populated in UBC-GIF GRAV3D software interface.