



Surface Ellipse Advanced Tool User Manual

1. General introduction

Surface Ellipse Advanced tool is used to approximate the surface data distribution by an ellipse. It is NOT to fit exactly the surface boundary to an ellipse. Therefore, this tool works with the same principle as the built-in surface ellipse tool while adding the oriented bounding box calculation and also more measurement and feature outputs.

Regarding the bounding box, it is NOT calculated the same way as surface bounding box tool. In this tool, the bounding box orientation is aligned with the major/minor axes of the fitted ellipse. Therefore, calculating the ellipse from the surface data distribution is a prerequisite. The length direction of the bbox is the same as the major axis of the ellipse. The same principle applies to the width direction of bbox and the minor axis of the ellipse.

2. Parameters

Asymmetry detection	The same as in Surface Ellipse tool	Asymmetry Detection: None Region
Region	The same as in Surface Ellipse tool	
Measurements	Compared to Surface Ellipse tool, It adds Ellipse X, Y position; adds calculated bounding box X, Y position; adds bounding box length and width. The way of calculating the bounding box refers to Section 1 second paragraph.	Measurements Features Ellipse X -1.876 ☒ Ellipse Y ☐ Major ☐ Minor ☐ Z Angle ☐ Bounding Box X ☐ Bounding Box Y ☐ Length ☐ Width ☐
Features	Same as in Surface Ellipse tool, except it adds bounding box center point.	Measurements Features Ellipse Center Point ☒ Bounding Box Center Point ☐ Major Axis Line ☐ Minor Axis Line ☐