

Profile Closed Area Advanced

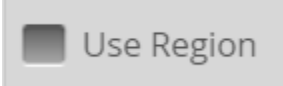
1. General introduction

This tool is used to compute the area of a closed profile consisting of several profiles. Two methods are provided:

- 1) Sector: Using this method, the closed profile will be separated into several sectors, and these sectors have the same centre point. The output area is equal to the sum of these sector areas.
- 2) Contour: Using this method, the closed profile is regarded as a closed contour, and [Green's theorem](#) is used to compute its area. Please note that every profile must be ordered. If [spot selection is "None" and uniform spacing is unchecked](#), the profile points are unordered, and if the method is Contour, the tool will return a wrong measurement result.

This tool supports profile point cloud.

2. Parameters

Use Region	If not chosen, all points will be used to determine the bounding box. Otherwise, only points within user-configured regions will be involved	
Method	Sector or contour.	Method: Sector
Center Selection	If you select Method as Sector, you should configure this parameter. "Bounding Box" means that the bounding box's center point of the closed profile is used as the sector centre point; "Feature Input" means that you should select an output value of another tool as the sector centre point.	Center Selection: Feature Input Center: Bounding Box Feature Input
Center	If you select "Feature Input", you should select an input point from another tool's output.	Center: Disabled
Use Max Gap	If you check this option, the tool will compute the arc lengths or distances of all two neighbor points in the profile.	

Max Gap	The threshold value of two neighbor points. When “Method” is “Sector”, this value represents the arc length; When “Method” is “Contour”, this value represents the distance. If one or more values between two neighbor points are greater than this threshold, the output value is “invalid”.	Max Gap (Arc Length): 1 Max Gap: 1
Sample Spacing	If “Method” is “Sector”, You should configure this parameter. It represents the central angle of each sector.	Sample Spacing: 1 deg

3. Measurements and Features

Measurements	Area	The area of the closed profile.
--------------	------	---------------------------------

4. Application example