

# Result: Buckling Analysis Result

## Analysis Results

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## Functions

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afx_msg VARIANT	<b>OSOutputUI::IsBucklingAnalysisResultsAvailable</b> () Determines whether buckling results are available.
afx_msg VARIANT	<b>OSOutputUI::GetNoOfBucklingFactors</b> () Returns the number of buckling factors computed.
afx_msg VARIANT	<b>OSOutputUI::GetBucklingFactor</b> (const VARIANT FAR &varBucklingMode, VARIANT FAR &varLambda) Returns the buckling factor for a specified buckling mode.
afx_msg VARIANT	<b>OSOutputUI::GetBucklingModeDisplacementAtNode</b> (const VARIANT FAR &varBucklingMode, const VARIANT FAR &varNode, VARIANT FAR &varDisps) Returns the modal displacement at a specified node number and mode.

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## Detailed Description

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These functions are related to buckling analysis result.

## Function Documentation

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### ◆ GetBucklingFactor()

```
VARIANT OSOutputUI::GetBucklingFactor ( const VARIANT FAR & varBucklingMode,
                                         VARIANT FAR &      varLambda )
```

Returns the buckling factor for a specified buckling mode.

### Parameters

[in] **varBucklingMode** Buckling mode number (Type: Long)  
 [out] **varLambda** The buckling factor. (Type: double)

### Returns

Boolean (TRUE/FALSE) whether succeeded or not.

### VBA Syntax

```
'Get Mode Frequency
Sub BucklingFactor()
Dim RetVal As Variant
Dim varFactor As Double
Dim varMode As Long

'Launch OpenSTAAD Object
On Error GoTo ErrHandler
Set objOpenSTAAD = GetObject(, "StaadPro.OpenSTAAD")

'Get Mode Frequency
varMode = 1
RetVal = objOpenSTAAD.Output.GetBucklingFactor(varMode, varFactor)

Set objOpenSTAAD = Nothing
Exit Sub

ErrHandler:
MsgBox ("Run STAAD.Pro Advanced First" & vbCrLf)
Resume Next
End Sub
```

## ◆ GetBucklingModeDisplacementAtNode()

```
VARIANT OSOutputUI::GetBucklingModeDisplacementAtNode ( const VARIANT FAR & varBucklingMode,
                                                         const VARIANT FAR & varNode,
                                                         VARIANT FAR & varDisps )
```

Returns the modal displacement at a specified node number and mode.

### Parameters

- [in] **varBucklingMode** Buckling mode number (Type: Long)
- [in] **varNode** Node number at which buckling analysis result is to be extracted (Type: Long)
- [out] **varModalDisps** Array of buckling mode displacements (Type: Double, Size: 6)

### Return values

- 1** Buckling analysis result extraction successful
- 0** Buckling analysis result extraction unsuccessful

### VBA Syntax

```
'Get Modal Displacement At Node
Sub BucklingDisplacementAtNode()
Dim RetVal As Variant
Dim Disp(0 To 5) As Double
Dim varNode As Long
Dim varMode As Long

'Launch OpenSTAAD Object
On Error GoTo ErrHandler
Set objOpenSTAAD = GetObject(, "StaadPro.OpenSTAAD")

'Get Buckling Displacement At Node
varMode = 1
varNode = 4
RetVal = objOpenSTAAD.Output.GetBucklingModeDisplacementAtNode(varMode, varNode, Disp)

Set objOpenSTAAD = Nothing
Exit Sub

ErrHandler:
MsgBox ("Run STAAD.Pro Advanced First" & vbCrLf)
Resume Next
End Sub
```

## ◆ GetNoOfBucklingFactors()

## VARIANT OSOutputUI::GetNoOfBucklingFactors ( )

Returns the number of buckling factors computed.

### Return values

**nBucklingFactors** The number of buckling factor(s) extracted by the eigen analysis. (Type: long)

### VBA Syntax

```
Dim RetVal As Variant  
RetVal = objOpenSTAAD.Output.GetNoOfBucklingFactors()
```

## ◆ IsBucklingAnalysisResultsAvailable()

## VARIANT OSOutputUI::IsBucklingAnalysisResultsAvailable ( )

Determines whether buckling results are available.

### Return values

**1** Buckling Analysis results are available

**0** Buckling Analysis results are *not* available

### VBA Syntax

```
Dim RetVal As Variant  
Set objOpenSTAAD = GetObject(, "StaadPro.OpenSTAAD")  
  
RetVal = objOpenSTAAD.Output.IsBucklingAnalysisResultsAvailable()
```

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