SigFit

Release Notes
Version 2010-R2d

May 18, 2011

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Warning: Use of this program is subject to the terms of the Demo Software Agreement or the Software Agreement agreed upon in writing with the User's authorized representative(s). Installation of this software indicates acceptance of the Software Agreement.

Technical Support

IMPORTANT: When contacting technical support please provide the following:

1. Your .sig file defining your SigFit analysis.
2. All files referenced by the .sig file. This includes FEA model files, FEA results files, OLOAD files, VECTOR files, etc.
3. The nature of the problem and the error you are seeing, if any.

Licensing Issues

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For more information about Sigmadyne visit our website at: www.sigmadyne.com.

The background theory used in SigFit is discussed in the following book & short courses:

Doyle, K., Genberg, V., Michels, G., **Integrated Optomechanical Analysis**, TT58, SPIE Press, October, 2002.

Integrated Optomechanical Analysis short course available from Sigmadyne, Inc.

SigFit short course available from Sigmadyne, Inc.

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1 Installation and Upgrading:

Installation of SigFit requires Administrator permissions.

Instructions for installing may be found in the Install-Instructions-v2010R2d.pdf found at http://www.sigmadyne.com/sigweb/sigfit_download.htm.

SigFit may require installation of a Microsoft Visual Studio 2005 C++ Redistributable SP1 ATL (8.0.59193) dated September 2010 available from Microsoft.

SigFit has been tested on the following platforms:

Microsoft Windows XP on Intel x86_32
Microsoft Windows XP on Intel x86_64
Microsoft Windows Vista on Intel x86_32
Microsoft Windows Vista on Intel x86_64
Microsoft Windows 7 on Intel x86_32
Microsoft Windows 7 on Intel x86_64

2 Error Corrections

2.1 ZEMAX .zpl File Axial Rigid Body Motion Unit Conversion

In all prior v2010 releases (late December 2010 through March 2010) the unit conversion from FE units to optics units of axial rigid body motion sent to ZEMAX .zpl files is not being performed. This error will affect axial displacement sent only to the ZPL file for ZEMAX output AND only if the FE model units differ from the optical analysis model units. Axial displacements written to the .fit file and .csv output files are correct. This error is not present in any versions of SigFit prior to v2010.

2.2 Disabled Error Checking

In all prior v2010 releases (late December 2010 through March 2010) analysis input file error checking becomes disabled after reading in an existing .sig file. This can result in failure to detect some user errors, such as failure to specify a required filename, which will then result in a crash of the SigFit calculation engine. Much of the error checking inadvertently bypassed in previous 2010 releases is now irrelevant with the context sensitive filtering of choices in the pull down widgets introduced in v2010R1. However, some user errors may fail to be detected. This error is not present in any versions of SigFit prior to v2010.

2.3 ANSYS Macro Coordinate System Extraction

The macro with which .asig file are written from ANSYS Mechanical APDL and ANSYS Workbench had an inadvertent reference to the variable “I” in getting the coordinate systems from the database. If the variable “I” happened to be set to a value greater than 1 when the macro was executed then the coordinate systems would be written with incorrect IDs.

2.4 Export of Change in Radius of Curvature to Optical Analysis Lacks Companion Bias

Calculation of the change in radius of curvature is accompanied by the computation of a companion bias term as part of the fit. If the user selects to subtract change in radius of curvature, this companion bias term was not included in the rigid body motion calculations in all prior versions. This companion bias term in now included in the axial rigid body motion. A new requirement has also been added that if the user is subtracting change in radius of curvature then the user must also select subtraction of all rigid body motion. Subtraction of change in radius of curvature is not the default and therefore the effect of this error results only if the user changed the default selection. Sigmadyne does not advocate common use of the subtraction of radius of curvature as a general practice.

2.5 Export of Fits of Even Asphere Polynomials Sequenced Incorrectly

In all prior v2010 releases (late December 2010 through March 2010) the export of even aspheres (PTYP=ASPHE and ASPHE1) to optical analysis files were sequenced incorrectly. The export of fits of all asphere terms (PTYP = ASPH and ASPH1) was not affected. Results would likely cause obviously erroneous optical ray tracing. This error is not present in any v2009 versions of SigFit nor any prior versions.

2.6 Manual Polynomial Normalization Radius Overrides Aperture

In all prior v2009 and v2010 releases the manual specification of a polynomial fitting normalization radius, FNORM on the PTYP entry, would also be used as an aperture to that surface. Analyses with the default blank for polynomial fitting normalization radius are unaffected by this error. The effect of the error on analysis results would be evident when graphically plotting results as results would be displayed over an aperture different than what was intended.

2.7 Inconsistant Acceptance of Some Text Box Widgets

Some text box widgets in VSigFit would require picking elsewhere in the application or hitting the Enter key in order to accept changes made to the text box. Other text boxes would accept the changes as they were typed. All text boxes now accept changes to the text box contents as they are typed.