

## ANSYS Class3 Error Report

**ERROR NO:**

2014-07

**Keywords:**

STRESS INTENSITY FACTORS (SIFs)

2D AXISYMMETRIC MODELING

FRACTURE ANALYSIS

CRACK

**Description of Error:**

The documentation for performing a stress intensity factor (SIF) calculation is incomplete. The section affected appears in the Structural Analysis Guide: 11.3.3.1. "Calculating Stress-Intensity Factors via Interaction Integrals." The documentation does not indicate that for 2-D axisymmetric stress states, the plane strain auxiliary field is used in the interaction integral formulation, possibly resulting in path-dependent values or incorrect SIF values.

**Typical GUI Path(s):**

n/a

**Other Comments:**

The errors depend on the integration domain size (crack tip meshes size) and also the mode of the crack. Refining crack tip mesh may improve accuracy for a mode I crack.

**First Incorrect Version:**

Release 12.0

**Corrected In:**

Release 16.0

**Suggested User Action For Running on Uncorrected Version:**

Using a very fine mesh around the crack tip may improve accuracy for a mode I crack.

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