FIGURE CAPTIONS

Fig. 1  Geometry of fiber path on surface \( S(x,\theta) \).

Fig. 2  Configuration of the 3rd stage motor case.

Fig. 3  Finite element mesh and boundary conditions.

Fig. 4  The location of strain gages attached.

Fig. 5  Schematic diagram of experimental setup.

Fig. 6  Deformation shape and strain distribution in the fiber direction.(10 times magnified, P = 6.895 MPa)

Fig. 7  Deformation shape and strain distribution in the fiber direction with & without reinforcements.(10 times magnified, P = 6.895 MPa)

Fig. 8  Comparison of the strains between numerical and experimental results.

Fig. 9  Transverse stress development of matrix cracked element with respect to internal pressure.

Fig. 10 The location of first failure occurrence for each mode
Fig. 1  Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 2  Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
ΔY, ΔZ = 0
Filler (epoxy)

Cylinder part
[±22° / 90° / ±22° / 90°]

Dome part
[±22°]

Internal pressure, 6.895 Mpa (1000 psi)

Aluminum boss

ΔY, ΔZ = 0

2nd skirt (upper)
[90° / ±15° / 90° / ±15° / 90°]

1st skirt (lower)
[±30° / 90° / ±30° / 90°]

Fig. 3 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 4 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 5 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 6 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Without reinforcements

With reinforcement in the dome part

Fig. 7 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 8 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 9 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim
Fig. 10 Jae-Sung Park, Cheol-Ung Kim, Hyun-Kyu Kang, Chang-Sun Hong and Chun-Gon Kim