Optimal Design and Static Load Testing of Tow-Steered Aircraft Fuselage Frames

Hitoshi Arizono, Yuichiro Aoki, Sunao Sugimoto (Japan Aerospace Exploration Agency), Ryosuke Yoshimura, Yuji Ikeda, Daisuke Nishida, Hiroharu Suzuki (Kawasaki Heavy Industries, Ltd)

- Automated Fiber Placement (AFP)
- Tow-Steering
- Optimial design of fiber orientation and thickness distribution
- Fuselage frames around the emergency escape door of a single-aisle aircraft
- Static load testing of conventional design frame and optimal design frame
- 17% weight reduction

