Uniaxial elasto-plastic behavior of adhesively bonded Hollow Sphere Structures (HHS) : numerical simulations and experiments

Abstract

This paper is on the investigation of adhesively bonded metallic hollow sphere structures. Two different approaches, namely experimental analysis and finite element calculations are applied and the findings of both attempts are compared. In the scope of the numerical approach the influence of the mechanical properties of the adhesive on the mechanical response of the structure is analysed. Based on these results, suggestions for design parameters are derived.