

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Processing and characterization of natural fiber reinforced thermoplastic composites using micro-braiding technique SATOSHI KOBAYASHI, Tokyo Metropolitan Univ, SHINJI OGIHARA, Tokyo University of Science — In the present study, we investigate fatigue properties of green composites. A hemp fiber yarn reinforced poly(lactic acid) composite was selected as a green composite. Unidirectional (UD) and textile (Textile) composites were fabricated using micro-braiding technique. Fatigue tests results indicated that fatigue damages in UD composites was splitting which occurred just before the final fracture, while matrix crack and debonding between matrix and fiber yarn occurred and accumulated stably in Textile composites. These results were consistent with modulus reduction and acoustic emission measurement during fatigue tests.

Satoshi Kobayashi
Tokyo Metropolitan Univ

Date submitted: 15 Oct 2015

Electronic form version 1.4