

Risposta strutturale di elementi strutturali laminati

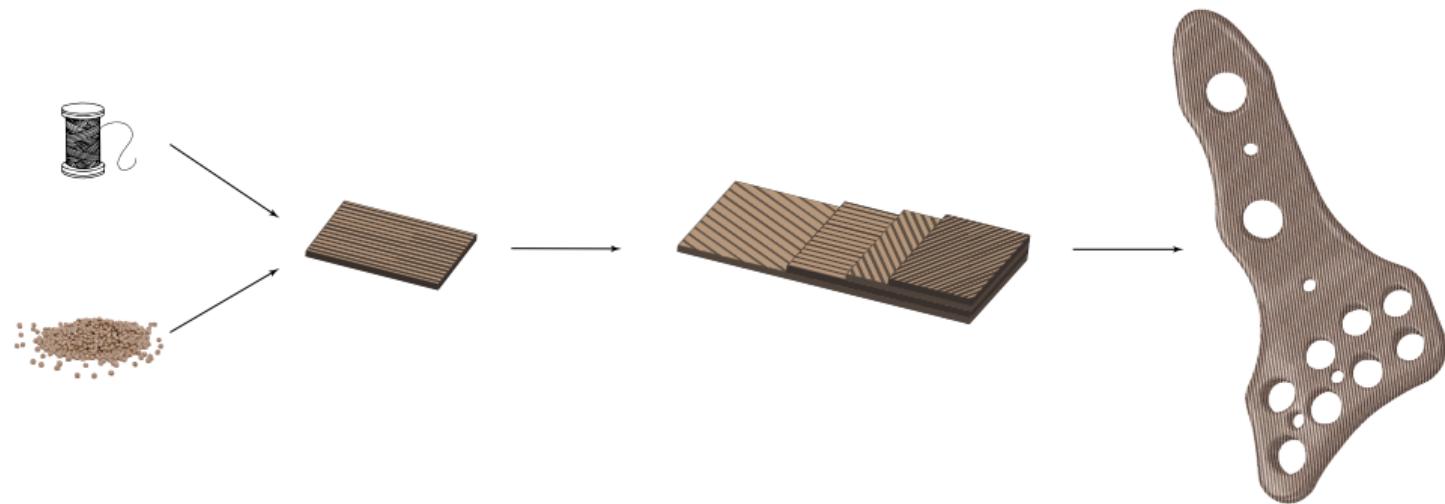
Laminato composito CF/PEEK ad uso biomedicale

Alessandro Mastrofini

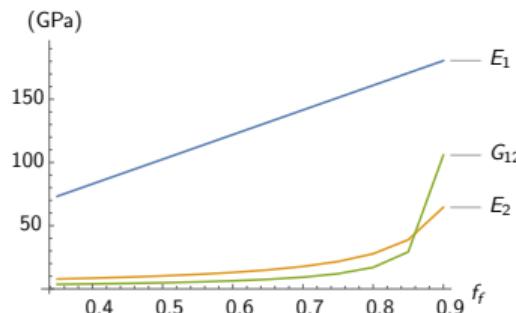
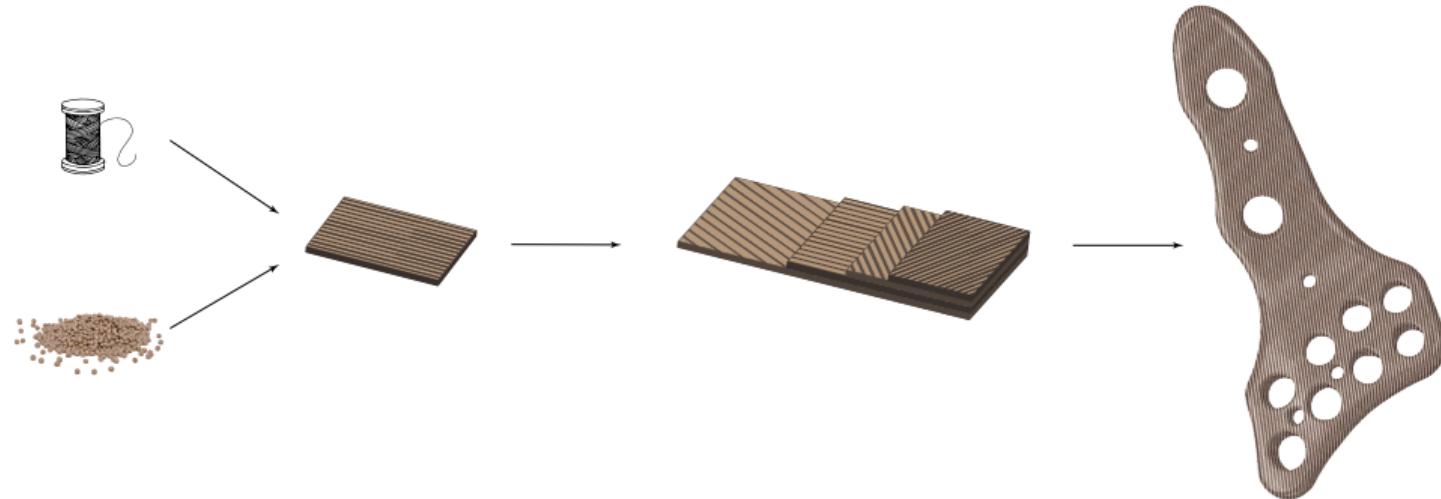
Meccanica Computazionale dei Tessuti e Biomateriali
Università degli Studi di Roma Tor Vergata

2022

Composite laminate



Composite laminate



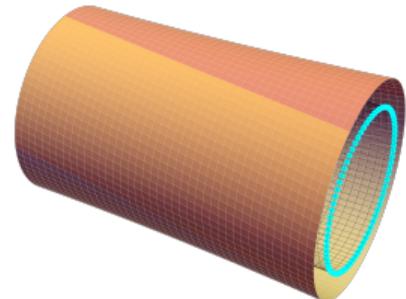
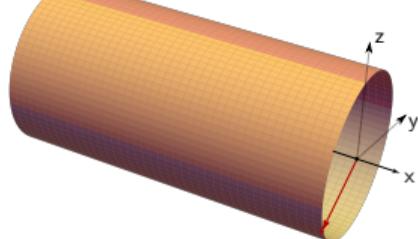
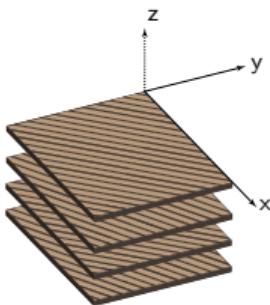
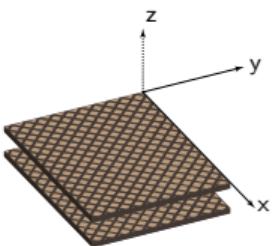
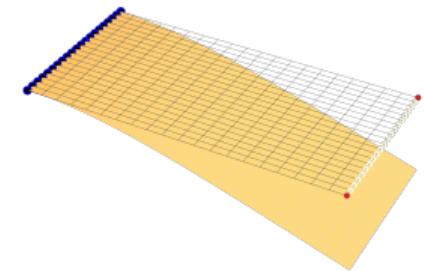
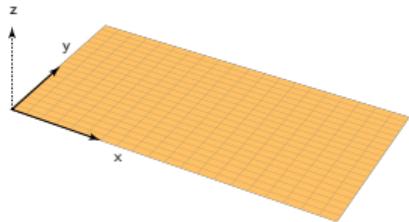
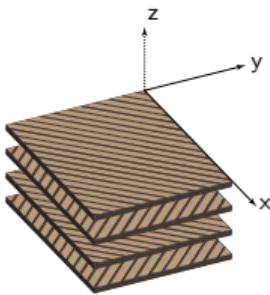
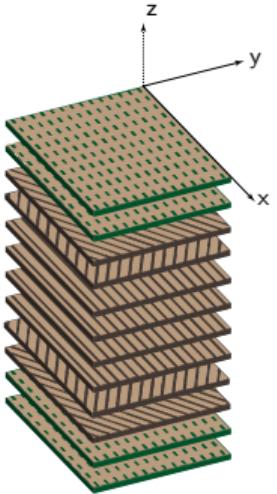
$$v_m + f_f = 1$$

$$E_1 = f_f E_f + (1 - f_f) E_m$$

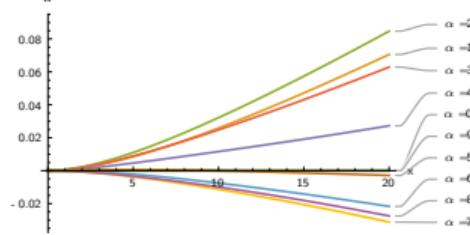
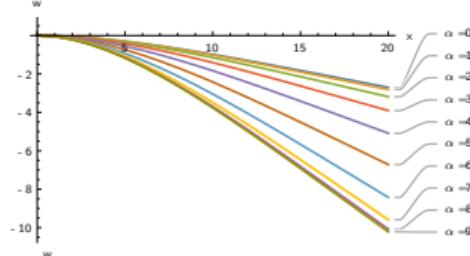
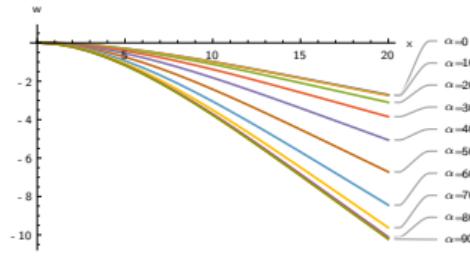
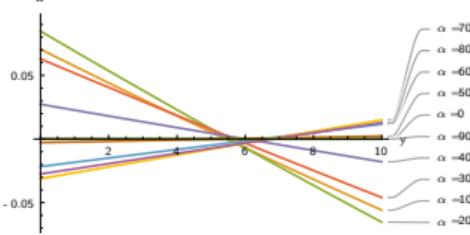
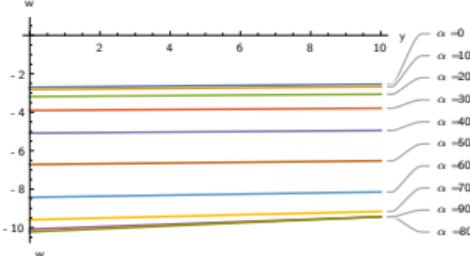
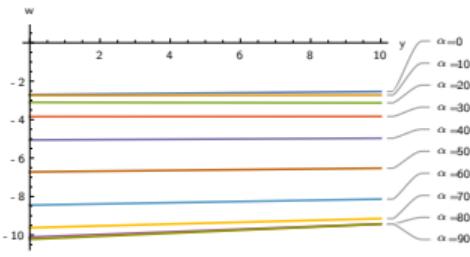
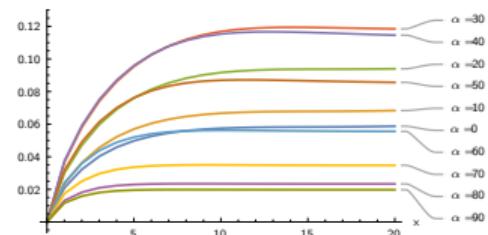
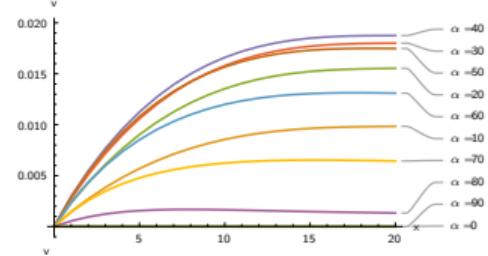
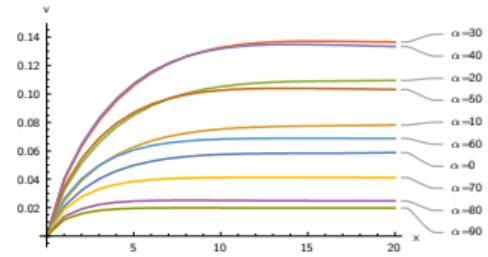
$$E_2 = \left(\frac{1 - f_f}{E_m} + \frac{f_f}{E_f} \right)^{-1}$$

$$G_{12} = \left(\frac{v_m}{G_m} + \frac{v_f}{G_f} \right)^{-1}$$

Layout



Parametric analysis



Layout analysis

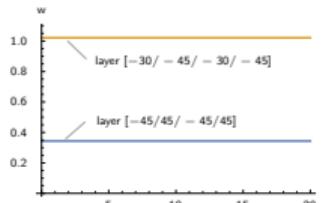
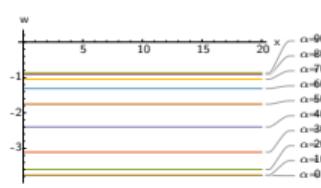
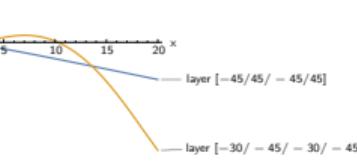
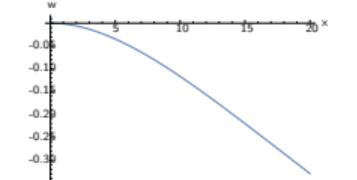
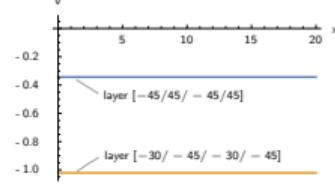
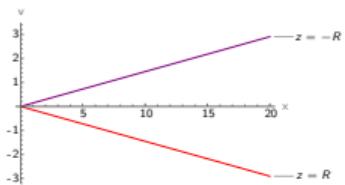
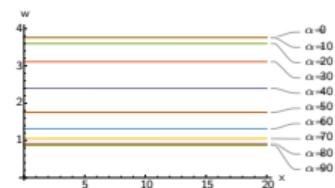
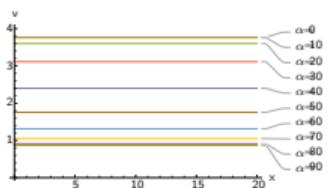
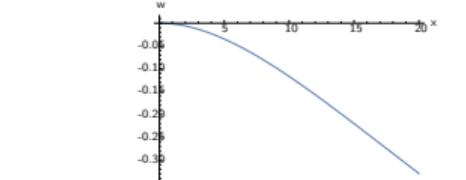
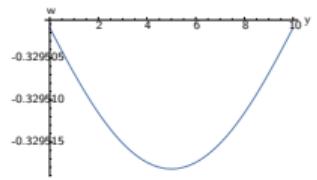
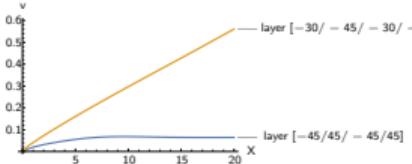
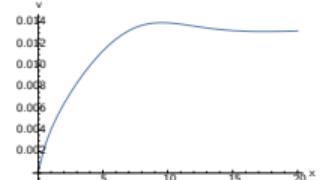
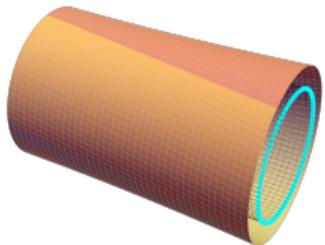
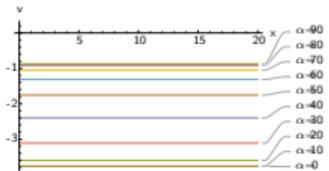
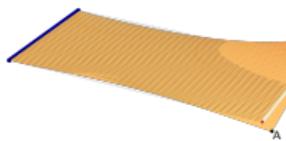
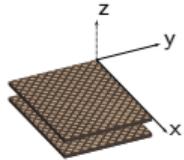


Plate thickness

