Fabrication, characterisation and modelling of uniform and gradient auxetic foam sheets

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Published version

DUNCAN, Oliver, ALLEN, Tom, FOSTER, Leon, SENIOR, Terry and ALDERSON, Andrew (2017). Fabrication, characterisation and modelling of uniform and gradient auxetic foam sheets. Acta Materialia, 126, 426-437.

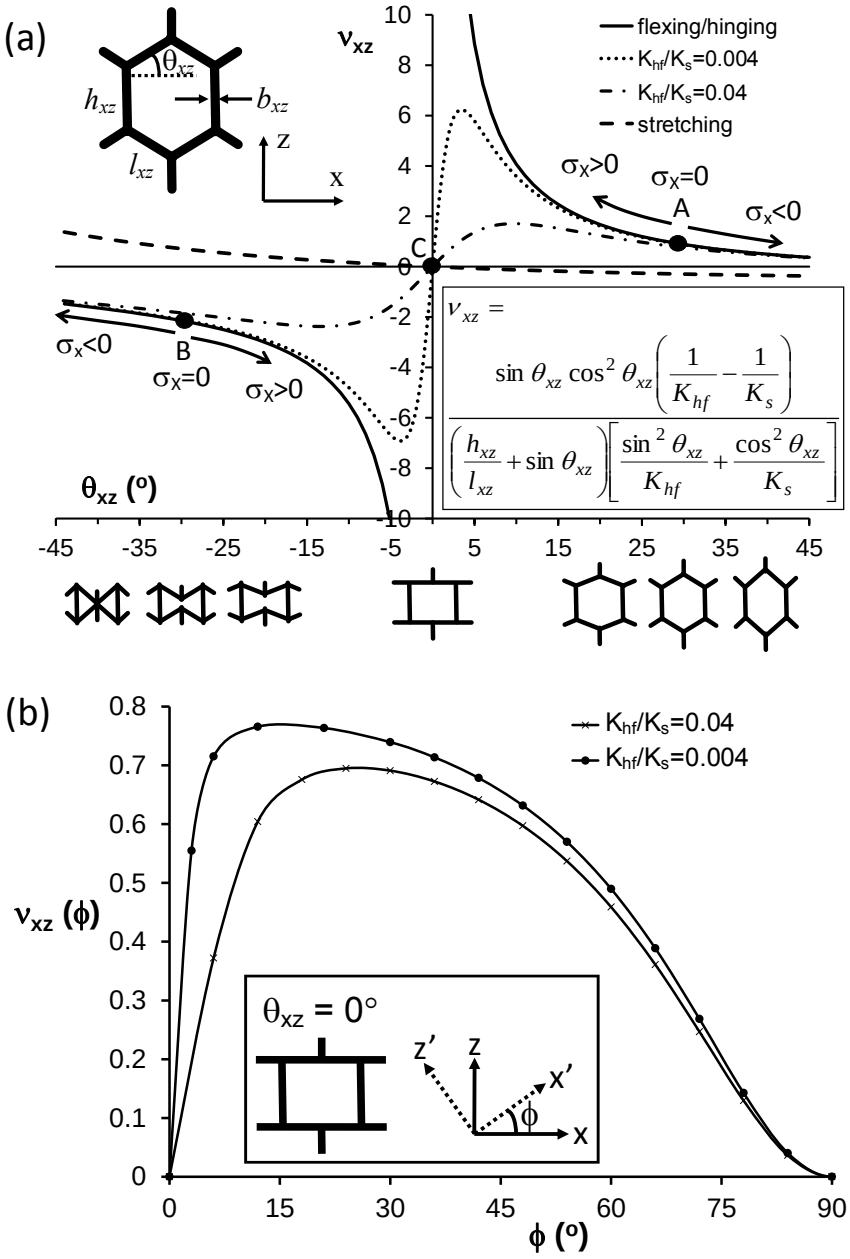

Figure 7: PR vs geometry predictions. (a) ν_{xz} vs θ_{xz} for a honeycomb having h_{xz} = 1.2, l_{xz} = 1, b_{xz} = 0.2 and K_{hf}/K_s = 0 (flexing/hinging), 0.004, 0.04 and ∞ (stretching). Cell geometrical parameters are shown (insert top left), and cell size/shape variation vs θ_{xz} is shown schematically below the figure. (b) ν_{xz} vs φ for the same honeycomb with θ_{xz} = 0 and K_{hf}/K_s = 0.004 and 0.04. Cell shape for θ_{xz} = 0 and definition of rotation angle φ are shown in schematic insert.