

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

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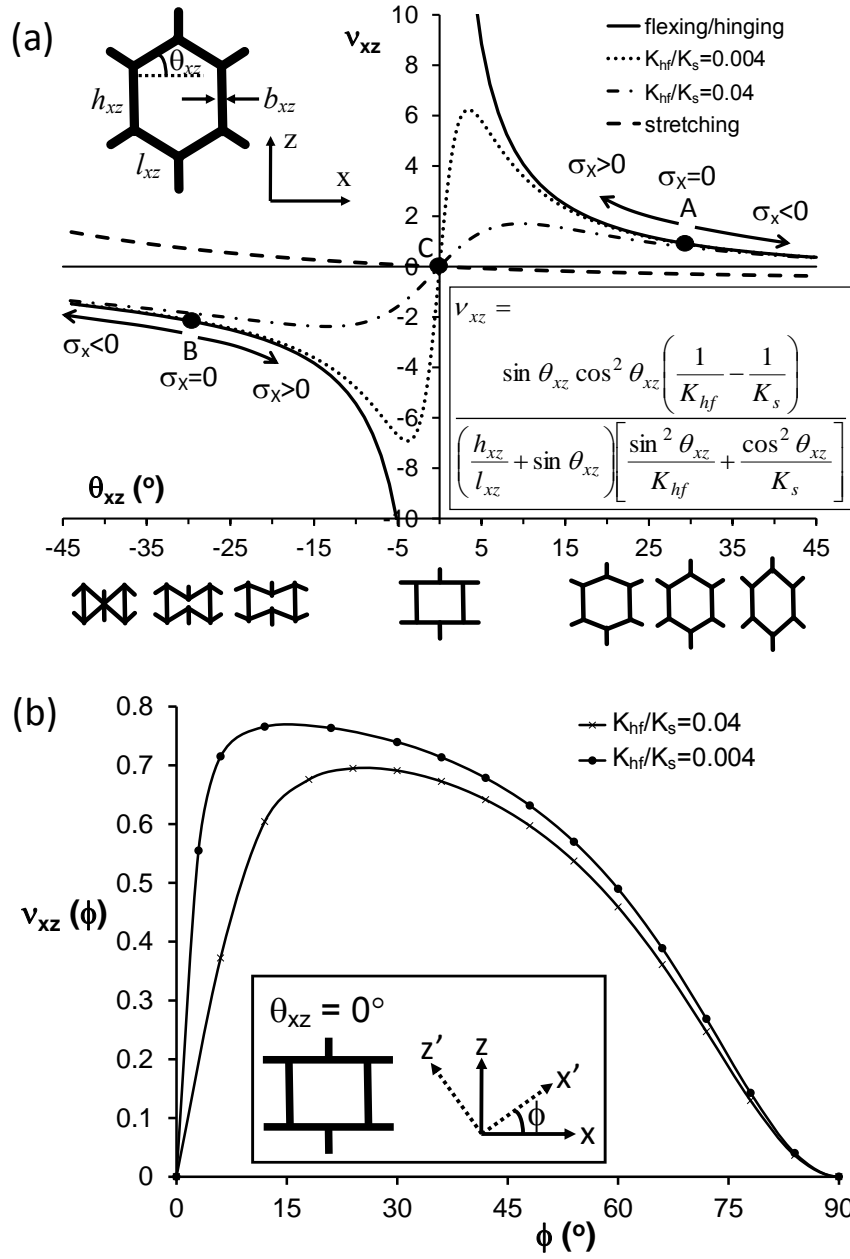


Figure 7: PR vs geometry predictions. (a) v_{xz} vs θ_{xz} for a honeycomb having $h_{xz} = 1.2$, $l_{xz} = 1$, $b_{xz} = 0.2$ and $K_{hf}/K_s = 0$ (flexing/hinging), 0.004, 0.04 and ∞ (stretching). Cell geometrical parameters are shown (insert top left), and cell size/shape variation vs θ_{xz} is shown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