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An Alternative Representation of Mechanical Metamaterials for Visualizing the Unfolding Process K.C. CHAN, Albany State Univ — Ahmad Rafsanjani and Damiano Pasini recently exhibited some design variations of planar mechanical metamaterial inspired by Islamic Motifs.* It is a challenge to visualize the expansion of the motifs, modulated and connected by hinges, ahead of time from its original state. A close scrutiny of these new designs reveals that they can be equivalently described in the language of space expansion, of a Bravis unit cell, conservation of mass, conservation of total angular momentum to predict the expansion without having to track complicated movements of the interconnected hinges. Such a consideration greatly simplifies mathematics involved and could provide insights to new designs. *APS news, A Medley of Metamaterials, April 2016 (Volume 25, Number 4, Page 3) www. aps. org/ publications/ apsnews/ 201604/metamaterials .cfm.

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