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**On low-velocity impact response of metal foam core sandwich beam: A dual  
beam model**

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**Abstract:** A theoretical procedure for dynamic response of metal foam core sandwich beams struck by heavy mass with low-velocity is developed to consider the combined local denting and global deformation. Analysis focuses on effect of local denting on global deformation and inertial effect of the structure. Large deflection effects are determined by using the membrane factor method. A set of finite element simulations is carried out to validate the model predictions. It is demonstrated that the model predictions are in good agreement with the finite element computations. The sandwich beam is strengthened with the deflection increasing.

**Keywords:** Metal sandwich beam; Dynamic response; Low-velocity impact; Analytical model; Large deflection.

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