Energy dissipation by controlling with high structural modes

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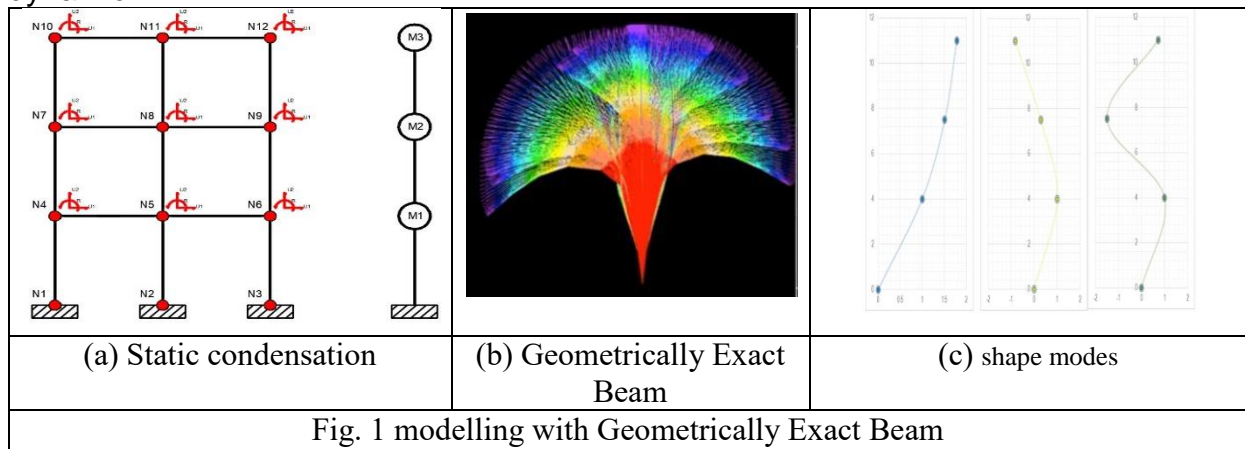[1] *Université de Technologie Compiégne, Laboratoire Roberval de Mécanique, France*
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ABSTRACT

In this work we present geometrically non-linear beam finite element capable of representing large rotations and large deformations, in order to model a structure subject to dynamic load. We propose to control the most unfavourable modes shape of the structure, adding the appropriate kind of damping related to basic and higher modes. In order to obtain the controllable mode shapes, we have to study the reduced model for dynamic.

(a) Static condensation	(b) Geometrically Exact Beam	(c) shape modes

Fig. 1 modelling with Geometrically Exact Beam

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