

Title (en)

SYSTEM AND METHOD FOR PASSIVE DAMPING OF MECHANICAL VIBRATIONS

Title (de)

SYSTEM UND VERFAHREN ZUR PASSIVEN DÄMPFUNG MECHANISCHER SCHWINGUNGEN

Title (fr)

SYSTEME ET PROCEDE D'AMORTISSEMENT PASSIF DE VIBRATIONS MECANIKUES

Publication

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Application

EP 19742849 A 20190606

Priority

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Abstract (en)

[origin: WO2019234366A1] The invention relates to a system for the passive damping of mechanical vibrations generated by a vibrating structure carried by a support, the system comprising a transducer inserted between the vibrating structure and the support for converting the mechanical energy of the vibrations into electrical energy, characterised in that the transducer comprises a flextensional structure having a first axis and a second axis which are perpendicular to each other, and a stack of piezoelectric elements which is designed to produce electrical energy when it is stressed, said stack being compressively stressed by the flextensional structure along the first axis such that a deformation of said structure modifies the compressive stress applied to said stack, two peripheral attachments are secured to the flextensional structure, each of the attachments being arranged along the second axis, a first attachment being used to secure the flextensional structure to the vibrating structure and a second attachment being used to secure the flextensional structure to the support, at least one of the attachments comprises an elastic suspension, and a shunt is connected to the piezoelectric stack in such a way as to dissipate all or some of the electrical energy produced by the stress applied to said piezoelectric stack.

IPC 8 full level

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