Abstract Submitted
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Fluidic harvesters in free stream turbulence undergoing flow-induced vibrations or flutter[1] JOAN GOMEZ, VAHID AZADEH RANJBAR, OLEG GOUSHCHA, YIANNIS ANDREOPOULOS, NIELL ELVIN, The City College of New York — In the present experimental work we investigated the performance of fluidic harvesters consisting of cylindrical body mounted of the tip of a flexible beam in the presence of nearly homogeneous and isotropic turbulence. Circular, semi-circular and square shapes have been tested. It was found that turbulence interferes with resonance conditions between the flow and the structure in the case of vortex induced vibrations and has absolutely no effect in flutter dominated case. As a result, turbulence increases the power output of non-linear harvesters subjected to vortex induces vibration and it has no effect in harvester under flutter conditions.

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