ACOUSTICS2008/3165 Recent developments on heat to electricity thermoacoustic conversion

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In this work we present recent developments for the conversion of heat into electricity based on the combined effects of a thermoacoustic prime mover coupled to a magnetohydrodynamic generator where different working fluids can be optimally chosen for each process. We consider the acoustically produced oscillatory motion of a liquid drop confined into a horizontal squared cross section capillary tube as a possible flow configuration for the system. We investigated the energy losses of the system and concluded that this system would be a convenient configuration for small systems. [Work supported by CONACYT 25116 project]