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**Experimental study of turbulent flow sound production in
presence of a simplified vocal tract constriction**

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Sound production due to turbulence is widely shown to be an important phenomenon involved in a.o. fricatives, singing, whispering and speech pathologies. In spite of its relevance, only a few recent models are dealing with turbulence consequences during voiced sound production. The current study presents preliminary results of an experimental characterisation of the aeroacoustical effects of a turbulent flow in case of a constricted channel flow, by means of measuring the velocity fluctuations and the acoustic field downstream of the constriction. Aiming a future application in speech production, the influence of typical vocal tract shape parameters on the velocity distribution and sound field is explored: the tube shape and length as well as the degree, geometry and position of the constriction. The influence of the Reynolds number of the upstream flow is also observed. Results are discussed with respect to the upper airways and human sound production and will be exploited with respect to simplified models for velocity fluctuations and sound production.