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Jean-Francois ROUCHON*, Dominique HARRIBEY*, Duc-Hoan TRAN*,
Roland RYNDZIONEK**, Łukasz SIENKIEWICZ**, Mieczysław RONKOWSKI**

HYBRID PIEZOELECTRIC MOTOR BASED ON ELECTROACTIVE LUBRICATION PRINCIPLE

A novel conception of hybrid piezoelectric motor is presented in this paper. Proposed conception required synchronized work of quasi-static and resonant piezoelectric actuators that results in a rotary movement. The motor's working principle is explained and the main characteristics are described. Studied topology is compared to the existing piezoelectric motors with regards to its field of applications. The assembling process of the motor is briefly explained with emphasis put on the frequency and impedance tuning of the piezoelectric actuators. Next, the power supply system is described. Finally, conclusions are presented concerning the features of the hybrid piezoelectric motor and possible solutions of the faced problems.

* Université de Toulouse – Laboratoire Plasma et Conversion d’Energie LAPLACE, UMR CNRS
52132 rue Camichel, 31071 Toulouse, France, Jean-Francois.Rouchon@laplace.univ-tlse.fr

** Politechnika Gdańska, Wydział Elektrotechniki i Automatyki, ul. Narutowicza 11/12,
80-233 Gdańsk, Poland, m.ronkowski@ely.pg.gda.pl