

T6_49 ENERGY CONVERSION AND ROTATIONAL MECHANIC MEASUREMENTS WITH A COMMON DC MOTOR

Assunta Bonanno, Giacomo Bozzo, Michele Camarca, Peppino Sapia, *P.E.R. Group - Physics Department, University of Calabria, Cosenza, Italy* (bonanno@fis.unical.it, bozzo@fis.unical.it, camarca@fis.unical.it, sapia@fis.unical.it)

It is well known that experiments conducted by means of easy to find materials or devices recycled from old and no more working household appliance (as a dc motor can be) represent an extraordinary opportunity for hands-on activities both at school and at home. Even in schools well furnished with technological and advanced instrumentations, this kind of activities keep a special appeal and attractiveness together with a great teaching value, because pupils can repeat experiments at home proving to their parents their new acquired skills and competencies. But to obtain the best results it is necessary to use a well designed didactical pattern so that child's attention can be focused on the correct cognitive knots in physics learning. Moreover, the production of acquisition systems progressively cheaper and easier to be used allows a large diffusion of the on- line experimental activities, allowing quantitative measurements and data analysis discussion. In this work a dc motor, derived from an old video recorder, is interfaced with a PC to measure efficiency in conversion from electrical to mechanical energy. Measurements of inertial moment of various rigid bodies are also presented to explain the importance of mass distributions in rotational motion.