



**Poland Section IEEE,
Joint Industrial Electronics & Power Electronics Chapter
(IES/PELS)**

IEEE

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Second IEEE Workshop

Sensorless Control of Electrical Drives

Organized by

IEEE-PELS-Technical Committee for Motor Drives

Joint IES/PELS Chapter of Poland Section IEEE

Warsaw, 29.08.2008

Location: Warsaw University of Technology, Institute of Control and Industrial Electronics

Co-Chairs: Prof. Alfio Consoli, Italy and Prof. Ralph Kennel, Germany

Local Organizers: Prof. Marian P. Kazmierkowski, Poland
and IES/PELS Chapter Chairman: Dr Marek Jasinski

The Second IEEE Workshop on *Sensorless Control of Electrical Drives* took place on 29th of August in Warsaw, Poland. The host of this event was Warsaw University of Technology (WUT), the largest technical university in Poland. This Workshop was organized by IEEE-PELS-Technical Committee for Motor Drives (Prof. Alfio Consoli, Italy) and the Joint IES/PELS Chapter of Poland Section (Prof. Marian P. Kazmierkowski, Dr Marek Jasinski). The idea of the Workshop was proposed and initiated by Prof. Ralph Kennel, Germany and the first event was last year in Malta organized by Dr Cyril Cyril Spiteri Staines.

In the Technical Program of the Workshop 12 invited specialists from 6 countries have presented their interesting lectures devoted to novel methods of sensorless control of AC motor drives. Prof. Silverio Bolognani (University of Padova, Italy) has presented an interesting speech about synchronous motor

drive in catamaran. Prof. Alfio Consoli (University of Catania, Italy) presented a sophisticated method of induction motors flux estimation. Dr Q. Gao and Dr C. Geranda (University of Nottingham, UK) presented a novel approach for Permanent Magnet Synchronous Machine modeling. Prof. Zbigniew Krzeminski (TU Gdansk, Poland) presented advanced multiscalar models of AC machines. Prof. Peter Mutschler and dr Roberto Leidhold (TU Darmstadt, Germany) presented very good results in improved bandwidth of sensorless position detection. A “Woman in Engineering” - Prof. Teresa Orłowska-Kowalska and Dr Mateusz Dybkowski (TU Wroclaw, Poland) presented excellent comparisons of different MRAS type speed and flux estimators for induction motor in low speed range. Experimental results showed that proposed estimator works stable even with 50% parameters mismatch and is easy in DSP implementation. Dr. Giacomo Scelba (University of Catania, Italy) showed an analogue implementation of sensorless control of salient synchronous motors. A very interesting presentation about standardized implementation of INFORM and an EMF-model in industrial sensorless PMSM drives was given by Prof. Manfred Schroedl (TU Wien, Austria). Prof. Włodzimierz Koczara and Janusz Wisniewski (WUT, Poland) spoke about sensorless low speed operation of a permanent magnet motor. Presented method PIPCRM could detect a rotor position at standstill. Each presentation were find very up-to-date especially by participants involved in industry.

Moreover, during Panel Session over 30 participants of the Warsaw event, decided that the next *III Workshop on Sensorless Control of Electrical Drives* will be addressed to wider audience with majority participants form industry.

The discussion was very lively and the event gave an opportunity to meet young researchers with very famous professors from the field of electrical drives. Besides discussion during Technical Session, participants had possibility to visit laboratories of the Institute of Control and Industrial Electronics (ICIE), and further during the dinner in very friendly and informal atmosphere in the nice restaurant *Polish Delicious*.

The Local Organizers would like to thank for cooperation to: *IEEE-PELS-Technical Committee for Motor Drives* and *Poland Section IEEE* for financial support, and all invited specialist for high level materials and would like to invite for the next Workshop in 2009. The details will coming soon.



Fig. 1 Participants of the Second IEEE Workshop on Sensorless Control of Electrical Drives at Warsaw University of Technology, Electrical Faculty



Fig. 2 Prof. Alfio Consoli during his presentation at Warsaw University of Technology, Electrical Faculty



Fig. 3 Prof. Ralph Kennel during presentation at Warsaw University of Technology, Electrical Faculty