



Industrial Electronics: How Many Years?

The history of the IEEE Industrial Electronics Society (IES) dates to 21 February 1951 [1]. By reading IEEE *Xplore* [1], we can take an interesting journey through the multidisciplinary area of industrial electronics. In the first article published in *IEEE Transactions on Industrial Electronics*, we could read, in an abstract, that “a combination of Fourier analysis of load voltage waveforms and Laplace transformation is applied for determining the performance of a separately excited dc motor fed from a chopper-controlled supply, under all modes of operation. The analysis takes into account the commutation interval, and the results show that contrary to the assumption made in works reported earlier, the commutation interval significantly affects the performance. For the case of continuous conduction, independent expressions for current and speed are obtained in terms of applied voltage, load torque, and chopper and machine parameters. However, in the case of discontinuous conduction, Fourier coefficients include speed voltage as an additional quantity, and hence the equations for current and speed have to be solved as simultaneous equations. The analysis is used to predict the steady-state and transient response. Computed torque-speed characteristics are compared with the results obtained experimentally” [1].

We would find that the considerations in that article are still valid, although in dissimilar applications and by using

different tools. However, humans and industry are increasingly dependent on electrical drives. Is this an accident? I am sure it is not. The focus of the IES has always been up to date. During the 1950s, in *Transactions of the IRE Professional Group on Industrial Electronics*, Everett G. Henry wrote, “The certification of industrial heating equipment required by the Federal Communications Commission’s ‘Rules and Regulations Relating to Industrial, Scientific, and Medical Service’ is a subject of interest to all persons operating such equipment” [4]. Indeed, we are

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finding new and robust solutions in almost every industrial area.

From the beginning, our Society has linked telecommunications (through the Institute of Radio Engineers) and power processing by means of electrical engineering, electronics, power electronics, IT, automation, control, standardization, medicine, and others. Our peers in IEEE sister Societies (Figure 1)—including the IEEE Power & Energy Society (PES), which has more than 125 years of history [5]; the IEEE Industry Applications Society (IAS) [6]; the IEEE Power Electronics



FIGURE 1 – The logos of the IES and its IEEE sister Societies.

Society (PES) [7]; and the IEEE Dielectrics and Electrical Insulation Society (DEIS) [8]—are complementary and excellent sources of support and experience. We have ideas such as IEEE’s mission of “Advancing Technology for Humanity.” The PES is “Powering Us”; the IAS is “Linking Research to Practice”; the DEIS is “Protecting Us”; and the IES is “Linking Humanity With Industry.”

All IEEE Societies are wonderful places to gain knowledge and experience and build relationships. Thanks to our predecessors and their effort, we have excellent opportunities to grow. Hopefully, the story will continue for following generations of students and

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young professionals. IEEE is a place where academia and industry join, where the university meets the market: “The university is a wonderful means to an end; the institution of the university is one of the masterpieces of human culture” [9].

Our members spend a lot of time on research, development, education, and volunteer duties. It gives an opportunity for students and young professionals to grow in an interesting atmosphere. The main values of IES are the people who spend their time for our society. S. Wyszynski used to say, “People say, ‘Time is money’.” And I say to you, “Time is love.” On this we base our activity.

References

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 [9] “The centre for the thought of John Paul II.” <https://www.centrumjp2.pl/> (originally in Polish: Uniwersytet jest wspaniałym środkiem do celu, instytucja uniwersytetu jest jednym z arcydzieł ludzkiej kultury) (accessed Jan. 11, 2021).



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