Special Section on:

High Performance LED Drivers

Lighting accounts for about 15 percent of the world’s total electricity consumption, therefore a reduction of energy consumed for lighting will give a significant contribution to better utilization of the natural resources and a reduction of CO\textsubscript{2} emissions. Recently, Light Emitting Diodes (LED) have been introduced in street lighting, building lighting, backlighting and automobiles lighting, owing to their distinctive features including extremely high energy and light efficiency, good color rendering, limited emissions in the infrared and ultraviolet regions, long life and high flexibility. Among the others, their low temperature operations and small size reduce design constraints, thus allowing high creativity to light designers and possibility of embedded design. However, LEDs require constant current driving and perfect matching between lamp and driver. Since driving device performance directly determines energy saving outcome, the design of high performance LED drivers is a key point of this technology. The goal of this Special Section is to gather the most recent contributions of researchers in this area, aiming at some issues of LED driver design, which should be considered in order to promote LED lighting systems and improve the efficiency of electricity for lighting.

The Special Section has to be considered application oriented, therefore experimental and validation results are mandatory, hence, papers including simulation results only will be rejected. Editors invite original manuscripts presenting recent advances in these fields with special reference to the following topics:

- DC & AC supplied LED drivers
- Power factor correction for LED drivers
- Passive LED drivers
- EMI/EMC issues in LED drivers
- LED driver control
- Reliability issues in LED drivers
- LED arrangement and current equalization
- Temperature management in LED systems
- Color control in emerging color-mixing LED systems
- Integrated dimming and color control of LED systems
- Nonlinear control of RGB LED systems
- Intelligent illumination and future trends in LED drivers and applications

Manuscript Preparation and Submission

Check carefully the style of the journal described in the guidelines “Information for Authors” in the IEEE-IES web site: http://www.ieee-ies.org/pubs/transactions-on-industrial-electronics. Please submit your manuscript in electronic form through: https://mc.manuscriptcentral.com/tie-ieee. On the submitting page, in popup menu of manuscript type, select: “High Performance LED Drivers”.

Corresponding Guest Editor
Prof. Yijie Wang
School of Electrical Engineering and Automation, Harbin Institute of Technology, 150001 Harbin, Heilongjiang, China
EMAIL: wangyijie@hit.edu.cn

Guest Editor
Prof. J. Marcos Alonso
Electrical Eng. Dept., University of Oviedo, 33003 Oviedo, Asturias, Spain
EMAIL: marcos@uniovi.es

Guest Editor
Prof. Xinbo Ruan
College of Automation Engineering, Nanjing University of Aeronautics and Astronautics, 210016 Nanjing, Jiangsu, China
EMAIL: ruanxb@nuaa.edu.cn

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