SCIENTIFIC BOARD:

Ahrabian, Gh., Asst. Prof. (Iran)
Akkam, N., Asst. Prof. (Turkey)
Aksen, A., Prof. (Turkey)
Albizu, I., Prof. (Spain)
Alizade, P., Prof. (Turkey)
Amel, D., Prof. (Tunisia)
Ardehali, M.M., Prof. (Iran)
Ari, M., Assoc. Prof. (Turkey)
Arntsen, E., Dr. (Turkey)
Bakal, S., Dr. (Canada)
Bajestani, M., Dr. (Iran)
Bektas, S., Prof. (Northern Cyprus)
Beloiu, R., Dr. (Romania)
Beteringhe, A., Dr. (Romania)
Bilbao, J., Prof. (Spain)
Bizon, N., Prof. (Romania)
Boushehri, N.S. (Iran)
Bravo, E., Prof. (Spain)
Buigues, G. (Spain)
Caudhry, A., Dr. (India)
Chirlesan, D., Dr. (Romania)
Colak, I., Prof. (Turkey)
Constantinescu, L., Dr. (Romania)
Darabi, A., Prof. (Iran)
Demiroren, A., Prof. (Turkey)
Dincer, M.S., Prof. (Turkey)
Dursun, K., Assoc. Prof. (Norway)
Effatnejad, R., Asst. Prof. (Iran)
Eguia, P., Prof. (Spain)
Eke, I., Dr. (Turkey)
Faiz, J., Prof. (Iran)
Farsadi, M., Assoc. Prof. (Iran)
Farsangi, M.M., Assoc. Prof. (Iran)
Feizi, M.R., Prof. (Iran)
Fianu, S., Dr. (Romania)
Forrisdal, O.K., Assoc. Prof. (Norway)
Ghanbari, E., Prof. (Iran)
Gholami, A., Prof. (Iran)
Hardalac, F., Dr. (Turkey)
Hasanov, E.R., Prof. (Azerbaijan)
Hasanova, S.I., Asst. Prof. (Azerbaijan)
Hashimov, A.M., Acad. (Azerbaijan)
Hatami, H., (Iran)
Hernandez, J.R., Prof. (Spain)
Huseynov, A., Prof. (Azerbaijan)
Ionita, S., Prof. (Romania)
Iordache, M. (Romania)
Iskender, I., Prof. (Turkey)
Istefanopulos, Y., Prof. (Turkey)
Izykowski, J., Prof. (Poland)
Jadid, Sh., Prof. (Iran)
Jafri, A. (Iran)
Kalantar, M., Prof. (Iran)
Kaya, L., Dr. (Turkey)
Kazemi, A., Assoc. Prof. (Iran)
Kenarangui, R., Prof. (USA)
Khali, M.V., Prof. (Russia)
Khali, T.M., Prof. (Russia)
Khudiev, A.T., Prof. (Azerbaijan)
Kocaarslan, I., Prof. (Turkey)
Kocabas, D.A., Asst. Prof. (Turkey)
Konditi, D.B.O., Prof. (Kenya)
Kuznetsov, V., Prof. (Ukraine)
Lefter, E. (Romania)
Lita, I. (Romania)
Mamedov, N.A., Prof. (Azerbaijan)
Mehdiyev, T.R., Prof. (Azerbaijan)
Mehdizadeh, R.N., Prof. (Azerbaijan)
Mordt, H., Assoc. Prof. (Norway)
Mustafayev, R.I., Prof. (Azerbaijan)
Nayir, A., Asst. Prof. (Turkey)
Oprescu, B., Dr. (Romania)
Oproescu, M. (Romania)
Oraee, H., Prof. (Iran)
Ozerdem, O.C., Assoc. Prof. (Northern Cyprus)
Pashaei, A. (Iran)
Pavlyuchenko, D.A., Prof. (Russia)
Qurbanov, K.B., Asst. Prof. (Azerbaijan)
Rahmanov, N.R., Prof. (Azerbaijan)
Ramos, J.A. (Spain)
Rosolowski, E., Prof. (Poland)
Rostami, A., Prof. (Iran)
Rzayev, F.T., Dr. (Azerbaijan)
Sadikoglu, F.M., Prof. (Northern Cyprus)
Sefa, I., Dr. (Turkey)
Senol, M.A., Dr. (Turkey)
Serban, G., Prof. (Romania)
Sharifian, M.B.B., Prof. (Iran)
Shayanfar, H.A., Prof. (Iran)
Shayeghi, H., Assoc. Prof. (Iran)
Shidlovsky, A., Prof. (Ukraine)
Sima, I., Prof. (Romania)
Stanescu, C., Prof. (Romania)
Tabatabaei, Naser M., Prof. (Iran)
Tabatabaei, Nejat M., Dr. (Germany)
Taghizadegan, N., Dr. (Iran)
Taplamacioglu, M.C., Prof. (Turkey)
Ursu, D., Dr. (Romania)
Usta, O., Prof. (Turkey)
Varela, C., Prof. (Spain)
Vishtibeyev, A. Prof. (Russia)
Voicu, N. (Romania)
Yalcinoz, T., Prof. (Turkey)
EDITORIAL NOTE

We are pleased to present International Journal on “Technical and Physical Problems of Engineering” (IJTPE) in English and electronic print published seasonal periodically by the partners of International Organization on “Technical and Physical Problems of Engineering” (IOTPE) including Institute of Physics of Azerbaijan National Academy of Sciences (Baku, Azerbaijan) and Azerbaijan Research Institute of Energetics and Energy Design (Azerenerji JSC, Baku, Azerbaijan), Cleaner Production and Energy Efficiency Center (Baku, Azerbaijan), Seraj Higher Education Institute (Tabriz, Iran), Tabu Elm International Institute (Tabriz, Iran), Gazi University (Ankara, Turkey), Istanbul Technical University (Istanbul, Turkey), Isik University (Istanbul, Turkey), University of Pitesti (Pitesti, Romania), LUMINA - University of South-East Europe (Bucharest, Romania), University of the Basque Country (Bilbao, Spain), Near East University (Lefkosa, Northern Cyprus) and Ostfold University College (Fredrikstad, Norway).

The IOTPE organization is a scientific association, founder and holder of International Conferences on “Technical and Physical Problems of Power Engineering” (ICTPE) have been held in 2002 (Baku, Azerbaijan), 2004 (Tabriz, Iran), 2006 (Ankara, Turkey), 2008 (Pitesti, Romania), 2009 (Bilbao, Spain), 2010 (Tabriz, Iran), 2011 (Lefkosa, Northern Cyprus), and 2012 (Fredrikstad, Norway).

Considering the acquired experience in the eighth past conferences, International Conference on “Technical and Physical Problems of Power Engineering” (ICTPE) and to promote the quality and quantity of the ICTPE Conferences holding, the ICTPE Conferences name and topics are improved to International Conference on “Technical and Physical Problems of Electrical Engineering” (ICTPE) in the ninth ICTPE-2013 Conference to cover subjects in all fields and topics of Electrical Engineering and have been held in 2013 (Istanbul, Turkey), 2014 (Baku, Azerbaijan), and also to be held in the next edition of 2015 (Bucharest, Romania).

The IOTPE organization is generally managing and performing a set of scientific-executive affairs to holding International Conference of ICTPE, publishing International Journal of IJTPE and directing International Enterprise of IETPE.

Successful organizing and holding ICTPE conference and publishing IJTPE journal indicates close friendship and scientific collaboration of the scientists and researchers of member countries in engineering field development between the countries. The importance of holding ICTPE conference and publishing IJTPE journal are mutual understanding and recognition between the organizer countries through scientific, social and cultural development where yields increasing international cooperation in scientific areas.

Furthermore, the importance subjects of ICTPE conference and IJTPE journal are related to the opportunity for researches and scientists from different countries to clarify and discuss the latest and mutual research achievements and improvements as well as generalization of the internationally obtained results in the area of engineering and new technologies.

The conducting of ICTPE conference and IJTPE journal are based on important principle of the cooperative relationship between science and industry. This relationship is a basis for the activity of contemporary engineering companies. It is well known that important technical advance is possible only due to achievements of fundamental science.

Publishing IJTPE journal is getting increasing importance for cooperation of researchers and scientific centers of different countries. We strongly believe the journal provides the establishing scientific relationships and also increase the cooperation of east and west countries on the subject of engineering fields and applying the new technologies on solving technical and physical problems.

By the mean of IJTPE journal publication, the cooperation with the partners from the involved countries and also all of the worlds will be fostered. It is the main objective to enhance the level of multilateral exchanges, the involvement of authors in developing and improving the scientific research.

It is our honor that the IJTPE journal is registered and cited by the Norwegian Association of Higher Education Institutions (UHR) and the Norwegian Social Science Data Services (NSD) on behalf of the Norwegian Ministry of Education and Research.

We will do our best to disseminate the journal’s results and forward to the possible technological transfer of the accumulated knowledge of the scientific contributions of the authors.

Finally, we wish to express our gratefulness to all the authors and scientists from all over the world who have scientific reports in preparing the transactions published in the journal.

Editors-in-Chief

Academician Arif M. HASHIMOV
Prof. Naser M. TABATABAEI
<table>
<thead>
<tr>
<th>NO</th>
<th>CONTENTS</th>
<th>PAGES</th>
</tr>
</thead>
</table>
| 1  | A NEW CONTROLLING METHOD FOR MAXIMUM POWER POINT TRACKING IN PHOTOVOLTAIC SYSTEMS  
S. Molaei, S. Jalilzadeh, M. Mokhtarifard                                                                                                   | 1-7   |
| 2  | APPLICATION OF SPEA TO OPTIMAL SETTING OF FACTS DEVICES IN LARGE POWER SYSTEMS  
S. Molaei, S. Jalilzadeh, M. Mokhtarifard                                                                                                   | 8-14  |
| 3  | RADON GAS DIFFUSION COEFFICIENT IN MOISTURIZED SOIL SAMPLES  
F. Jamadi, A. Hosseini Ranjbar, H. Abbaslou                                                                                                    | 15-20 |
| 4  | UHV TRANSFORMERS DIFFERENTIAL PROTECTION BASED ON THE SECOND HARMONIC SUPPRESSION  
N.M. Tabatabaiei, S. Maleki, N.S. Boushehri                                                                                                   | 21-25 |
| 5  | HARMONIC SOURCE ESTIMATION OF DISTRIBUTION NETWORKS USING ICA METHOD  
A. Roshan Milani, M. Tarafdar Hagh, B. Mozafari, B. Asadzadeh                                                                               | 26-32 |
| 6  | A NOVEL ANALYTICAL TECHNIQUE FOR ESTIMATION OF MAGNETIC FLUX DENSITIES WAVEFORMS WITHIN 8/6 SWITCHED RELUCTANCE MOTORS  
M. Babaie, J. Faiz                                                                                                                            | 33-37 |
| 7  | A NEW HYBRID ALGORITHM FOR SHORT TERM LOAD FORECASTING  
H. Shayeghi, A. Ghasemi                                                                                                                        | 38-45 |
| 8  | A NEW TOPOLOGY FOR MULTILEVEL INVERTER WITH REDUCED NUMBER OF COMPONENTS  
B. Shirmard, R. Choupan, D. Nazarpour                                                                                                           | 46-51 |
| 9  | SIMULATION OF STATCOM FOR VOLTAGE QUALITY IMPROVEMENT IN POWER SYSTEM  
A.B. Balametov, E.D. Halilov, T.M. Isaeva                                                                                                     | 52-57 |
| 10 | INVESTIGATING PULSE WIDTH MODULATION METHODS IN MULTILEVEL INVERTERS AND PROPOSITION OF A NOVEL METHOD FOR 27-LEVEL HYBRID INVERTERS  
A.R. Pirouznia, H. Hatami, N.M. Tabatabaiei, A. Jafari                                                                                      | 58-64 |
| 11 | ANALYSIS OF A SOFT SWITCHED DUAL-BOOST CONVERTER  
H. Donuk, I. Iskender, N. Genc                                                                                                                   | 65-71 |
| 12 | ELECTROCHROMIC GLASS WITH MULTILAYER CONFIGURATION  
G. Kavei, A. Kavei                                                                                                                              | 72-77 |
| 13 | SKIN DISEASE IMAGES RECOGNITION BASED ON CLASSIFICATION METHODS  
M. Sabbagh Nobarian, S. Salimi, S. Rajebi                                                                                                      | 78-85 |
| 14 | AN INTEGRATION OF SPACE/ARCHITECTURAL DATA IN TOWN PLANNING PROCESS  
N.A. Babayeva, R.B. Amanzade, N. Rahimov, R.B. Rustamov                                                                                      | 86-89 |
| 15 | OZONIZER WITH TWO BARRIERS PULSE DISCHARGE  
N.A. Mamedov, R.N. Meh dizadeh, Sh.Sh. Alekherov, A.S. Bondyakov, I.I. Mustafayeva                                                          | 90-93 |
<table>
<thead>
<tr>
<th>NO</th>
<th>CONTENTS</th>
<th>PAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>INVESTIGATION OF SIMULTANEOUS DEMAND RESPONSE RESOURCES AND VEHICLES TO GRIDS IMPACTS ON UNIT COMMITMENT</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>VOLTAGE SAG REDUCTION IN DFIG BASED WIND TURBINE DURING UNBALANCED FAULTS USING SMES AND SVC WITH FUZZY LOGIC AND PID CONTROLLERS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N. Fardad, F. Faghihi, S. Soleymani</td>
<td>100-106</td>
</tr>
</tbody>
</table>

The issues of IJTPE Journal are registered and cited by:

- The Norwegian Association of Higher Education Institutions (UHR) and the Norwegian Social Science Data Services (NSD), [www.nsd.no/english](http://www.nsd.no/english), on behalf of the [Norwegian Ministry of Education and Research](http://www.nsd.no/english).

Indexing address:
[https://dbh.nsd.uib.no/publiseringskanaler/KanalTidsskriftInfo?id=480511&bibsys=0&request_locale=en](https://dbh.nsd.uib.no/publiseringskanaler/KanalTidsskriftInfo?id=480511&bibsys=0&request_locale=en)

- [Google Scholar](http://scholar.google.com/), for searching, exploring, locating, keeping, checking and citing the publications and authors through the libraries and on the web.

Search for: IJTPE
[http://scholar.google.com/scholar?hl=en&q=IJTPE&btnG=&as_sdt=1%2C5&as_sdtp=](http://scholar.google.com/scholar?hl=en&q=IJTPE&btnG=&as_sdt=1%2C5&as_sdtp=)