

Volume 3, Number 1

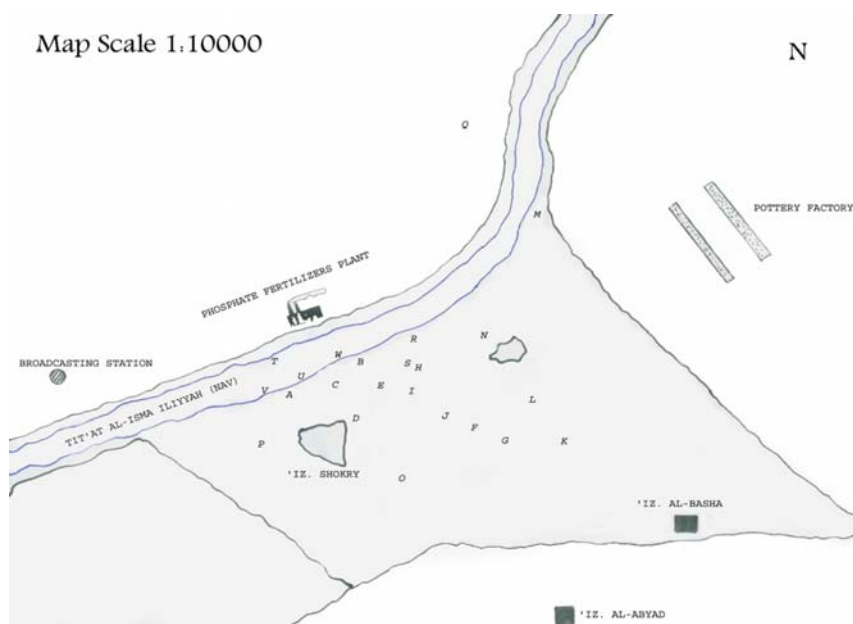
May 2008

Journal of Nuclear and Radiation Physics



A Periodical of the
Egyptian Nuclear Physics
Association

Map Scale 1:10000



Journal material is available online at: <http://www.physicsegypt.org/jnrp/>

JNRP 3(1) 1-62(2008)

ISSN: 1687-420X

ISSN: 1687-420X

Journal of Nuclear and Radiation Physics



A Periodical of the
Egyptian Nuclear Physics
Association

Aim and Scope

JNRP is a refereed journal devoted to the publication of new and significant research in all fields of nuclear and radiation physics including particle physics, high energy physics, nuclear models and structure, nuclear reactions and spectroscopy, neutron and reactor physics, environmental radiation physics, medical radiation physics, radiation measurement and dosimetry, and other related topics. The journal accepts original, high quality research, review papers, and rapid research communications. Special issues for nuclear and radiation physics conferences are possible. Distribution and readership of JNRP are worldwide.

Journal material is available online at: <http://www.physicsegypt.org/jnrp/>

Journal of Nuclear and Radiation Physics

Editor-in-Chief: M.N.H. Comsan

Editors and Advisors

The JNRP editors and advisors is a team of internationally recognized scientists specialized in different fields of nuclear and radiation physics.

Editorial Board

M.M. Abdel-Khalek
M. Adib
A.A. El-Kady
M.S.M. El-Tahawy

M.A. Gomaa
A.M. Hassan
A.Z. Hussein
Z.A. Saleh

Executive Editorial Secretariat

M. Adib

M.S.M. El-Tahawy

A.M. Hassan

Typesetting Secretary

A.M. Mosallem

National Scientific Advisors

Y.M. Abbas, Suez-Canal Univ.
M.A. Abuzeid, Manssoura Univ.
M. Adib, NRC, AEA
A.A. Ahmed, Minya Univ.
M.A. Ali, NRC, AEA
F. Asfour, NRC, AEA
M.N.H. Comsan, NRC, AEA, ENPA
M. El-Feky, NIS
A.A. El-Kady, NCNSRC, AEA
A.H. El-Kamel, Assiut Univ.
M. El-Morsy, Ain-Shams Univ.
M.E. El-Raey, Alexandria Univ.

M.S.M. El-Tahawy, NCNSRC, AEA
S.A. El-Wakil, Manssoura Univ.
M.A.M. Gomaa, NRC, AEA
K.M. Hanna, NRC, AEA
A.M. Hassan, NRC, AEA
M.Y. Hassan, Cairo Univ.
A.Z. Hussein, NCNSRC, AEA
M.W. Morsy, NRC, AEA
S.M. Morsy, NCNSRC, AEA
A. Sabry, Ain-Shams Univ.
Z.A. Saleh, NRC, AEA
M. Shalaby, Ain-Shams Univ.

International Scientific Advisors

L. Bimbot, France
J. Csikai, Hungary
A.Yu. Didyk, Russia
M. Frontasyeva, Russia
A. Houmada, Morocco
D.T.L. Jones, South Africa

V.K. Lukyanov, Russia
S. Mukhammedov, Uzbekistan
S. Qaim, Germany
B. Slowinski, Poland
J. Styczen, Poland
N. Zenine, Algeria

Journal of Nuclear and Radiation Physics

Volume 3, Number 1

May 2008

Contents

HIGH EFFICIENCY GLOW DISCHARGE ION SOURCE M.M. Abdel Rahman, A. Helal, O.A. Moustafa and F.W. Abdel Salam	1
STATISTICAL CALCULATION OF HOT CHANNEL FACTORS Kazem Farhadi	11
DETERMINATION OF PLUTONIUM ISOTOPES IN STANDARD IAEA REFERENCE MATERIALS BY DESTRUCTIVE ANALYTICAL TECHNIQUE M. H. Nassef, S. A. El Mongy, A. M. Diab, and M.S.EL-Tahawy	21
CENTRAL COLLISIONS INDUCED BY LIGHT TARGET NUCLEI B. M. Badawy	31
EVALUATION OF NATURAL RADIOACTIVITY IN A CULTIVATED AREA AROUND A FERTILIZER FACTORY H. M. Diab, S. A. Nough, A. Hamdy, S. A. EL-Fiki	53