Photovoltaic Pump System Design for Small Irrigation

Ion Sobor
Department of Electrical Engineering
Technical University of Moldova,
Chisinau, Republic of Moldova
ion.sobor@adm.utm.md

***Abstract*— A method of PV pump system calculation for small irrigation is presented. The solar radiation calculation was performed with PVGIS software. The numerical example contains pump flow rates, pumped water volumes (daily, monthly and for all irrigation period)**
***Keywords*—PV pump system; solar radiation; solar pump; diurnal and monthly flow rate**

REFERENCES

[1] А. Гаврилица. Современные проблемы дождевания. Министерство сельского хозяйства и продовольствия Республики Молдова. Кишинев: 1993. – 388 с
[2] S. Andrieş, V. Filipciuc, Eficacitatea irigaţiei în condiţiile Republicii Moldova. Academos, nr.3, 2014, p. 96-102
[3] http://agrari s.ro/vegetal/irigarea-plantatiilor-de-mar
[4] http://www.agrimedia.ro/articole/regimul-de-irigare-a-plantelorlegumicole Regimul de irigare a plantelor legumicole
[5] A. GavriliTa. Irigarea tehnică şi tehnologii moderne/ Andrei Gavriliţa, Liliana Dăscălescu, Sergiu Dăscălescu. – Ch.: Pontos, 2005 p. 72. ISBN 9975-926-50-9.
[6] I. Bostan, V. Dulgheru, I. Sobor, V. Bostan, A. Sochireanu, Sisteme de conversie a energiilor regenerabile, Univ. Tehn. A Moldovei. – Ch.: ”Tehnica Info,,, 2007, - 592 p. ISBN 978-995-63-076-4
[7] Solar engineering of thermalprocesses/John A. Duffee, William A. Beckman. – 2nd ed. A Wiley-Intersciance publication, 1991,- 919 p. ISBN 0-471-51056-4.
[8] Научно-прикладной справочник по климату СССР. Серия 3: Многолетние данные. Части 1-6, Вып.11, МССР. Гидрометеоиздат, Ленинград.- 1990 .
[9] http://re.jrc.ec.europa.eu/pvgis/apps4/pvest.php
[10] https://www.lorentz.de
[11] https://net.grundfos.com
[12] www.netafim.com Micro sprinklers. Product catalog. – 2014
[13] http://www.engineeringtoolbox.com/pvc-pipes-friction-loss