

ON OPTIMAL IRRIGATION SCHEDULING

Ilya Ioslovich¹, Mikhail Borshchevsky¹ and Per-Olof Gutman¹

¹Faculty of Civil and Environmental Engineering
Technion - Israel Institute of Technology, 32000 Haifa, Israel

Corresponding author email: agrilya@tx.technion.ac.il

Abstract. In this paper optimal irrigation scheduling based on a dynamical model is analyzed, and global optimality is proved with the use of sufficient conditions. Krotov's method of global bounds and Hamilton-Jacobi-Bellman formalism have been used.

Keywords. Optimal control, irrigation, scheduling, Hamilton-Jacobi-Bellman formalism.

AMS (MOS) subject classification: 49j15, 49N90, 90C46, 78A70.

References

- [1] J.G.F. Francis, The QR Transformation I, *Comput. J.*, vol. 4, 1961, pp 265-271.
- [2] H. Kwakernaak and R. Sivan, *Modern Signals and Systems*, Prentice Hall, Englewood Cliffs, NJ; 1991.
- [3] D. Boley and R. Maier, "A Parallel QR Algorithm for the Non-Symmetric Eigenvalue Algorithm", in *Third SIAM Conference on Applied Linear Algebra*, Madison, WI, 1988, pp. A20.

Received March 2011; revised August 2011 (2).