Abstract

A hybrid neuronal genetic model is proposed with the objective of solving the Riccati Algebraic Equation (RAE) that is associated to the restricted optimization structure of the Linear Quadratic Regulator (LQR) problem. The application of this hybrid model of artificial intelligence will be performed in a wind power generation system, in particular, the double fed induction generator (DFIG). For this, a recurrent neural network with multiple layers is used where its performance is realized by metrics of the norm of infinity associated with RAE and energy surfaces as a function of the positive definite symmetric matrix and the Cholesky factor.

References


Index Terms

Computer Science

Artificial Intelligence

Keywords

Artificial Neural Networks (RNA), genetic algorithm (GA), DFIG, LQR.