27th IFIP TC7 Conference 2015 on System Modelling and Optimization

[Stochastic modeling, control and applications]

[Linear Exponential Quadratic Stochastic Differential Games]

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Abstract:[A two person noncooperative stochastic differential game described by a linear stochastic equation with a Brownian motion and a payoff that is the exponential of a quadratic functional in the state and the control strategies of the two players is explicitly solved in a direct way not requiring the Hamilton-Jacobi-Isaacs equation or backward stochastic differential equations. The value of the game is also explicitly determined. The solution of this problem is naturally related to a linear quadratic stochastic differential game and to a linear exponential quadratic control problem.]