A FACTOR GRAPH APPROACH TO DESIGN CLOSE−TO−OPTIMAL RECEIVERS IN THE PRESENCE OF A TIMING UNCERTAINTY. (TueAmOR4)

Author(s) :

Cédric Herzet (Université catholique de Louvain, Belgium)
Luc Vandendorpe (Université catholique de Louvain, Belgium)
Valéry Ramon (Université catholique de Louvain, Belgium)

Abstract :

This paper considers the design of close−to−optimal receivers in the presence of a timing uncertainty. The problem is placed into the factor−graph and the sum−product (SP) algorithm framework. A simplified version of the SP algorithm is considered and the expectation−maximization (EM) algorithm is used to implement it. The proposed approach, combining the SP and EM algorithms, is shown to outperform classical approaches while exhibiting a low complexity.

Menu