

pds_shu0omega.m

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August 24, 2015

Abstract

The function pds_shu0omega() represent the formulation of $E = H(U_0|\Omega_M)$ in symmetric case of binary CEO problem.

1 Introduction

The function pds_shu0omega() in the m-file pds_shu0omega.m is defined as:

`E = pds_shu0omega(Ps,M) .`

This function represent the formulation of $E = H(U_0|\Omega_M)$ in symmetric case of binary CEO problem, being $\Omega_M = U_1 U_2 \dots U_M$, $Pr(U_0) = 0.5$ and $P_s = Pr(U_i \neq U_0|U_0)$.

$$E = \sum_{k=0}^M \binom{M}{k} P_s^k (1 - P_s)^{M-k} \log_2 \left(1 + \frac{P_s}{(1 - P_s)}^{M-2k} \right) \quad (1)$$

This equation can be seen in the thesis [1] in the page 49.

References

- [1] Heshmati, Ashkan (2007) Data compression and transmission in Wireless Sensor Networks. Masters thesis, Concordia University. URL <http://spectrum.library.concordia.ca/975271/>