Minimizing Age of Incorrect Information for Unreliable Channel with Power Constraint

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GlobeCom2021, December 2021

Scheduling to Minimize Age of Incorrect Information with Imperfect Channel State Information

SECTION 1

SECTION 2

SECTION 3

Frame Title

Frame Subtitle

Equation

$$arg \min_{\phi \in \Phi} \lim_{T \to \infty} \frac{1}{T} \mathbb{E} \left[\sum_{t=0}^{T-1} s^{\phi}(t) \mid \phi, (d(0), s(0)) \right] \tag{1}$$

• Φ is the collection of all feasible series of actions • $s^{\phi}(t)$ is the penalty paid at time t when the **transmitter acted** following the series of actions ϕ • $(d(0), s(0))$ are the initial values of the difference and the penalty respectively

Normal text

Some text [1]

SECTION 1

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Frame Title

Columns

- The command creates the frame environment, see full example to the right.
  - Options are for setting frame labels or template specific frame types – see next slide and the examples section
- Examine the main.tex file and Beamer class for more LaTeX code examples

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Enumerate

1. item 1
   1.1 text
      1.1.1 Text2
2. item 2

Frame Title

Figure

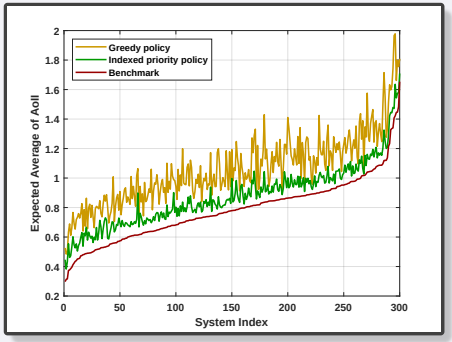

Figure: Random system settings

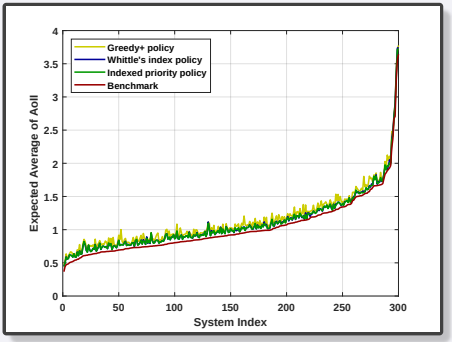

Figure: Random system settings with Whittle

Frame Title

Table

Table 1: Optimal thresholds for different p

	Mixing Coef.	n_1	n_2	n_3	n_4	n_5	n_6
$p = 0.1$	$\mu = 0.7176$	15	6/7	1	1	1	1
$p = 0.2$	$\mu = 0.0331$	37	16	8/9	1	1	1
$p = 0.3$	$\mu = 0.1178$	69	25/26	15	1	1	1

SECTION 1

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Frame Title

Blocks

Theorem 1.1 (*Optimal Policy*)

Theorem

Lemma 1.1 (*Monotone*)

lemma

Frame Title

Blocks

Theorem 1.1 (*Optimal Policy*)

Theorem

Lemma 1.1 (*Monotone*)

lemma

Corollary 1.1 (*Consequences*)

corollary

Proposition 1.1 (*Structural Property*)

proposition

Frame Title

More Blocks

Definition 1.1 (*Statistically Identical*)

Definition

Assumption 1.1 (*Perfect CSI*)

assumption

Frame Title

More Blocks

Definition 1.1 (*Statistically Identical*)

Definition

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assumption

Remark 1

emark

Example - Machine Overheating

Example

Frame Title

Blocks references According to Theorem 1.1, Lemma 1, Corollary 1, and Proposition 1.

Summary

Combination is a combination of age-based metrics framework.

Sufficiency characterize the ”Real-time Error” metric in some systems and for some choices of penalty functions.

Semantic communication goal is taken into account.

Thank You!

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References

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Real-time status: How often should one update?
In *2012 Proceedings IEEE INFOCOM*, pages 2731–2735. IEEE, 2012.

[2] Roy D. Yates, Yin Sun, D. Richard Brown, Sanjit K. Kaul, Eytan Modiano, and Sennur Ulukus.
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