

MODEL IDENTIFICATION AND ADAPTIVE SYSTEMS

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Answer the following questions:

- 1) Describe the main differences between the Recursive Least Squares (RLS) and the Least Mean Squares (LMS) algorithms.
- 2) Explain why it can be convenient to employ IIR filters in the ANC scheme, as opposed to FIR filters, if there is an acoustic feedback. Illustrate the FURLMS algorithm.
- 3) Describe the filtering problem and the Kalman approach to filtering and prediction.
- 4) Describe the 1-step ahead predictor models for NARX, NARMAX and NOE models, discussing their main differences.

Instructions:

- Report your name and identification number on the top right corner of the first page.
- Use separate pages for answers to different questions (one page for each question).
- Books, course slides, notes are not allowed.