MODEL IDENTIFICATION AND ADAPTIVE SYSTEMS

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Answer the following questions:

1) Illustrate the Extended Least Squares (ELS) algorithm.

2) Illustrate the Normalized LMS (NLMS) algorithm, discussing the various alternatives for estimating the input signal power.

3) Describe the approximation of a probability density function using samples, and discuss its role in particle filtering.

4) Explain why the orthogonalization of the regressors is crucial for the model selection of polynomial NARX models?

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, as well as the use of communication devices (e.g. smartphones).