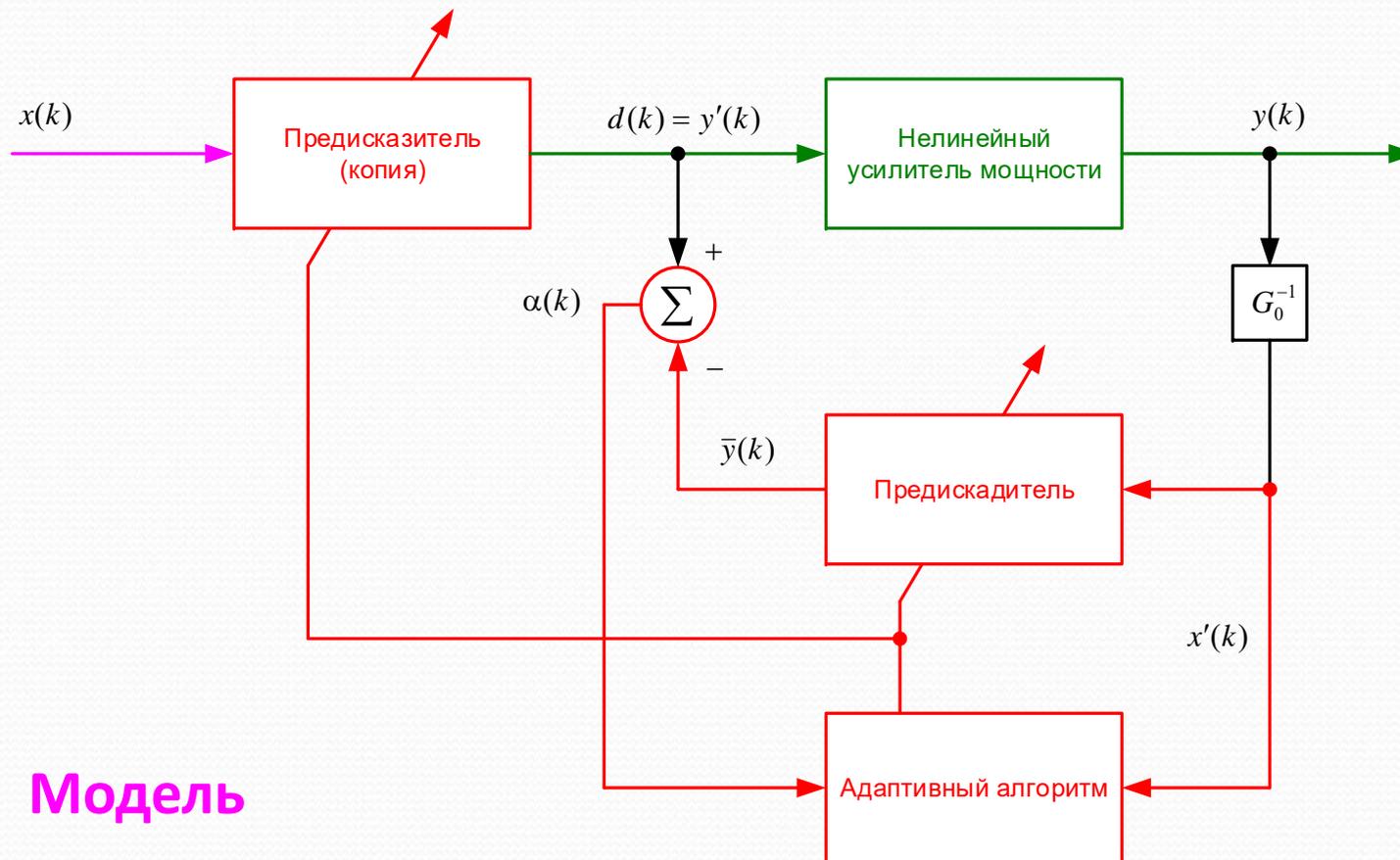


Предсказатели сигналов с прямым обучением для усилителей мощности

Виктор Джиган, д.т.н., г.н.с.

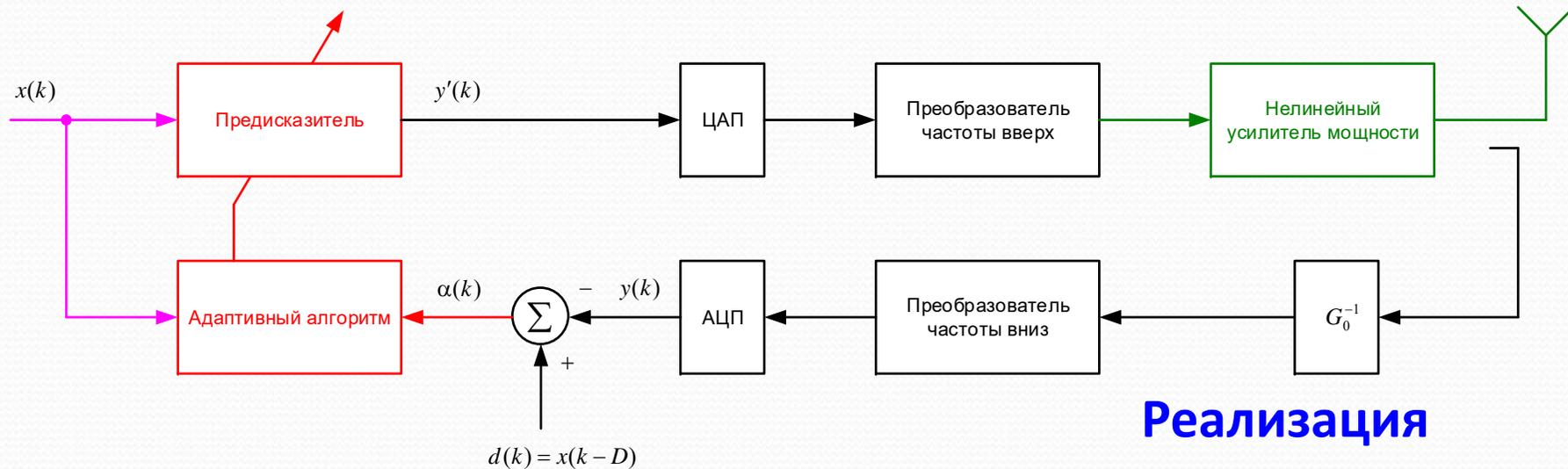
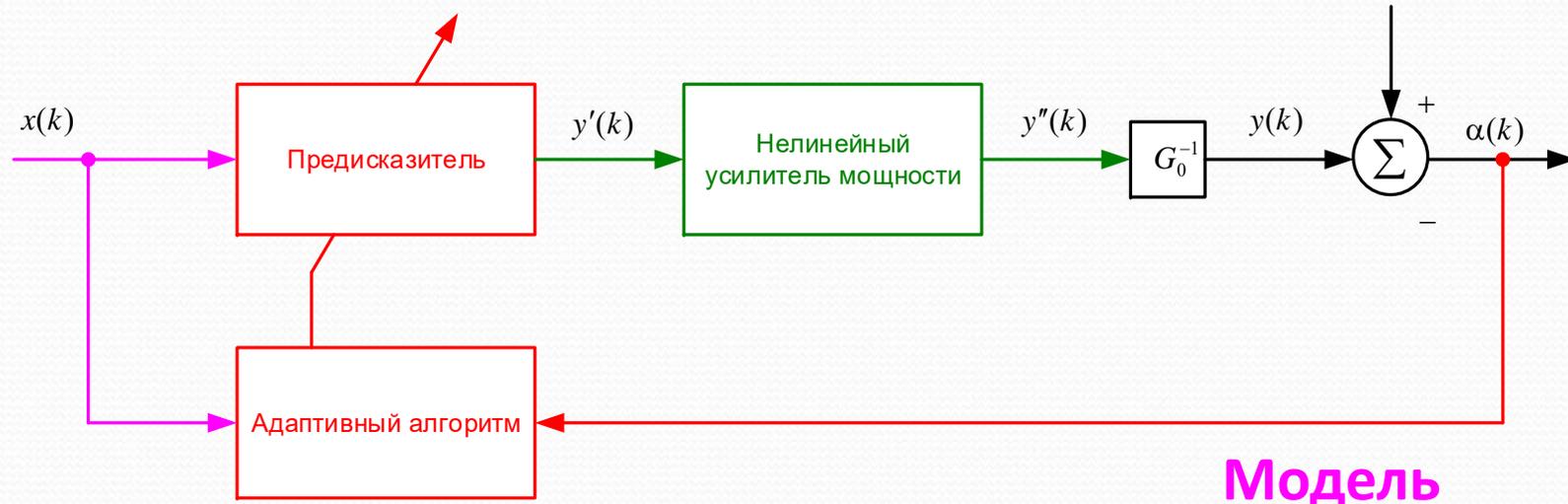
ИППМ РАН, Зеленоград, г. Москва

Предсказатель с обратным обучением

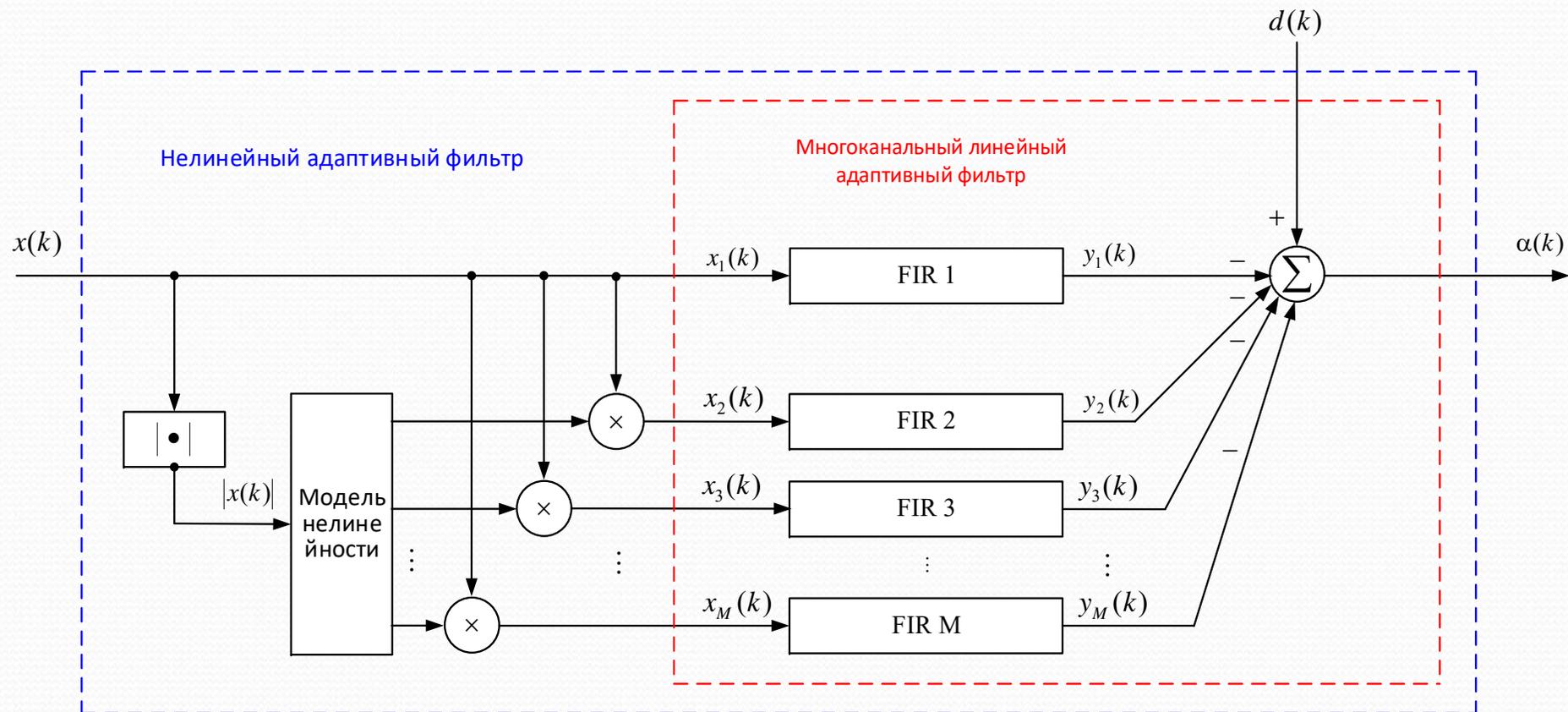


Модель

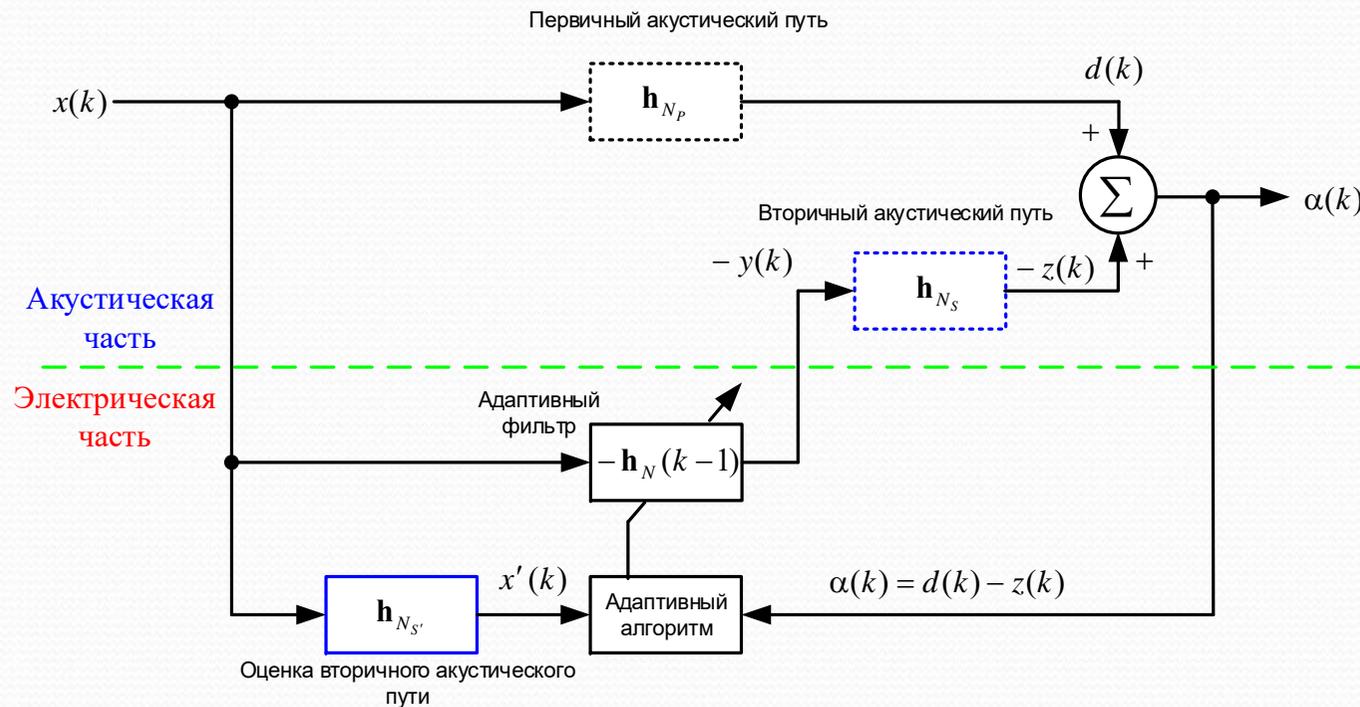
Предсказатель с прямым обучением



Нелинейный адаптивный фильтр



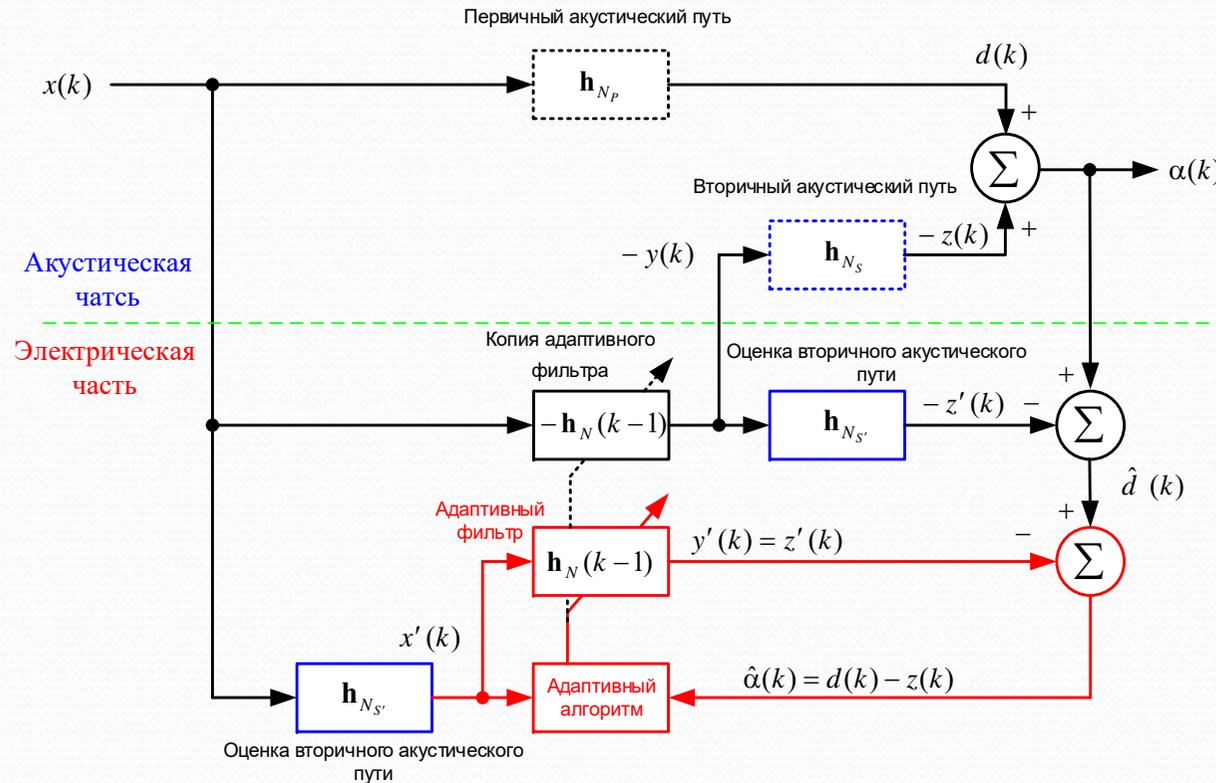
Устройство активного шумоподавления



Шаг сходимости адаптивного алгоритма:

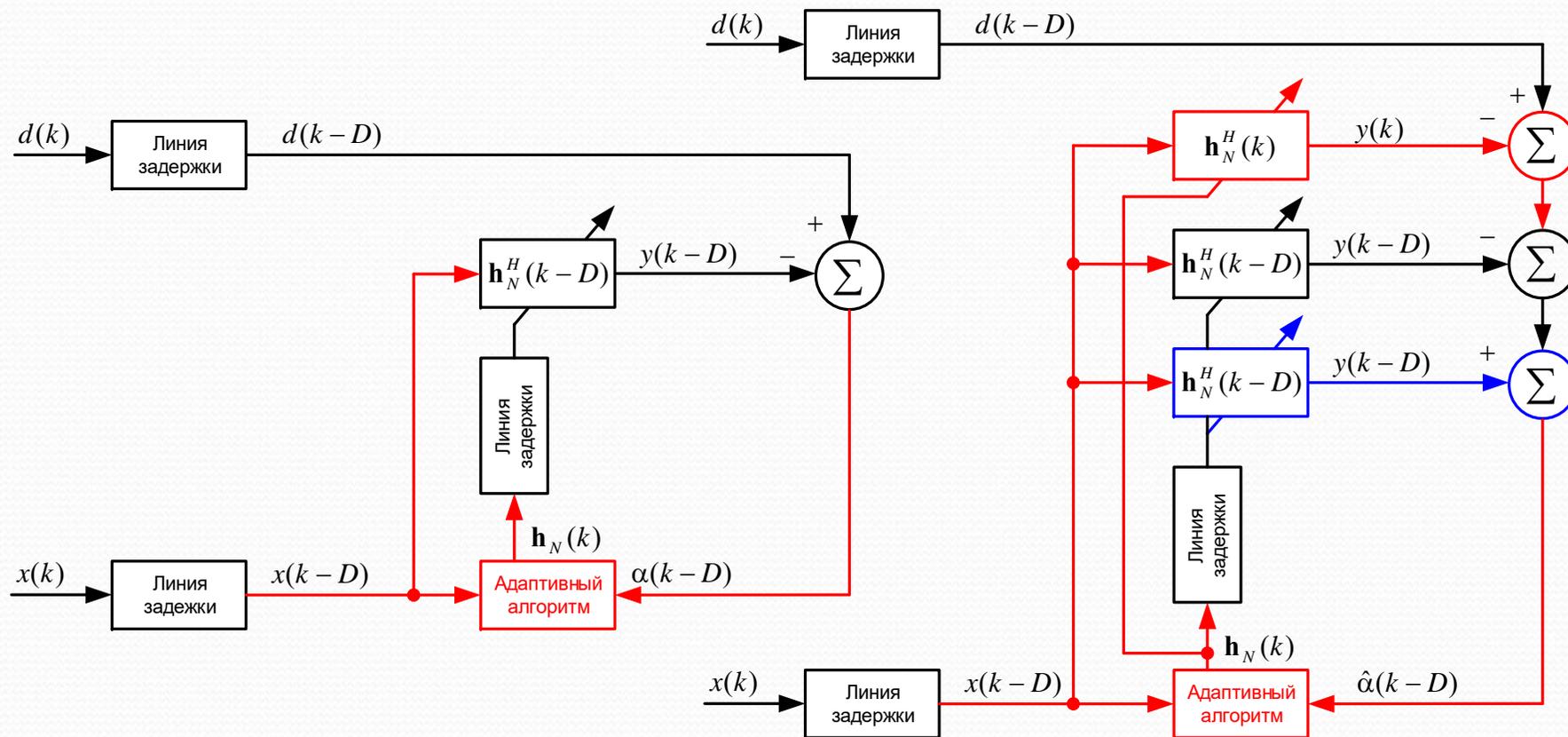
$$\mu_{\max} = < \frac{2}{3 \sum_{m=1}^M (N_m + D) \sigma_{x_m}^2}$$

Модифицированное устройство активного шумоподавления

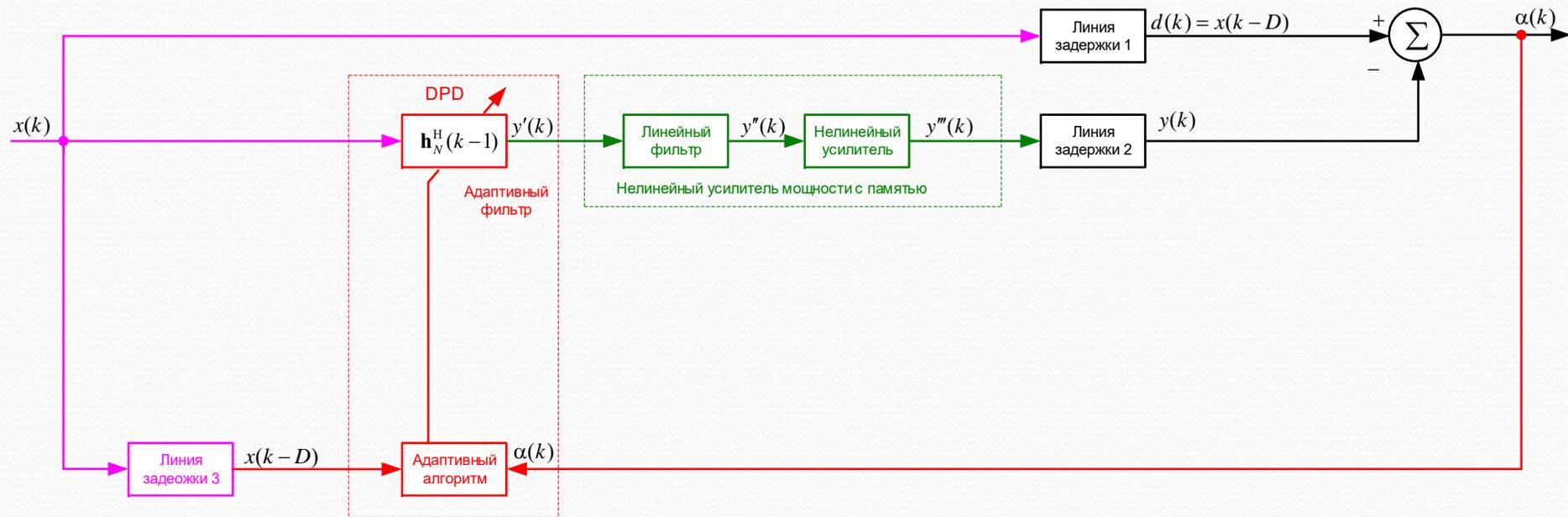


Шаг сходимости адаптивного алгоритма: $\mu_{\max} = < \frac{2}{3 \sum_{m=1}^M N_m \sigma_{x_m}^2}$

Адаптивный фильтр с задержкой обучения



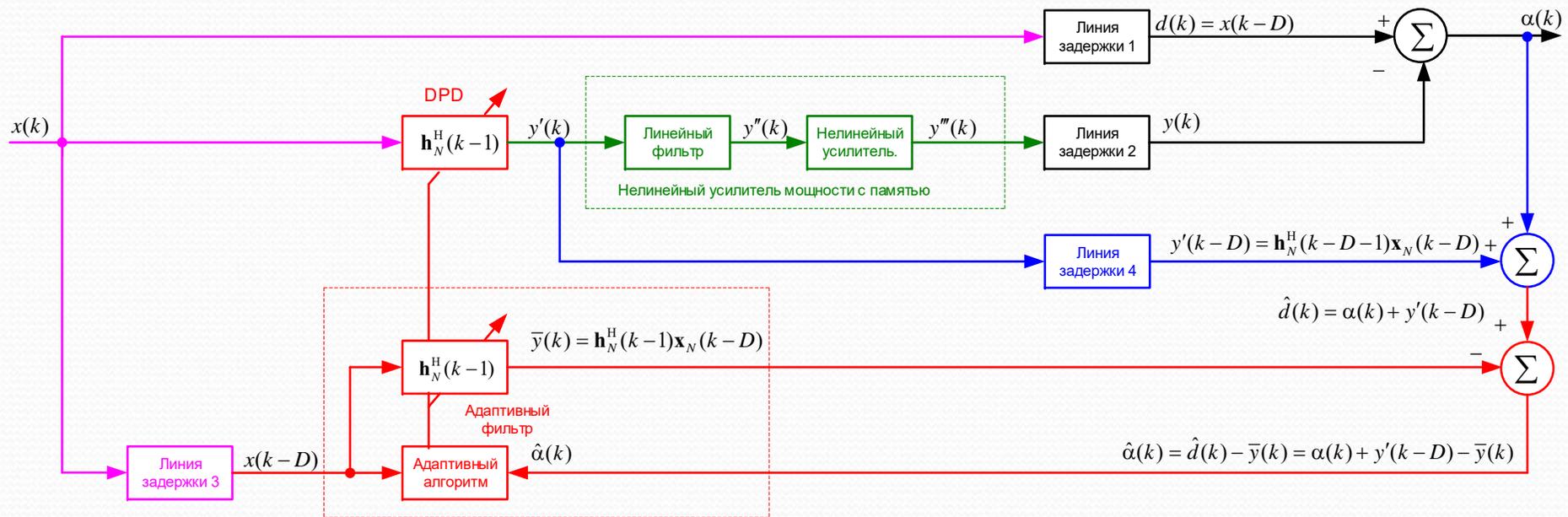
Предсказатель с прямым обучением



Шаг сходимости адаптивного алгоритма:

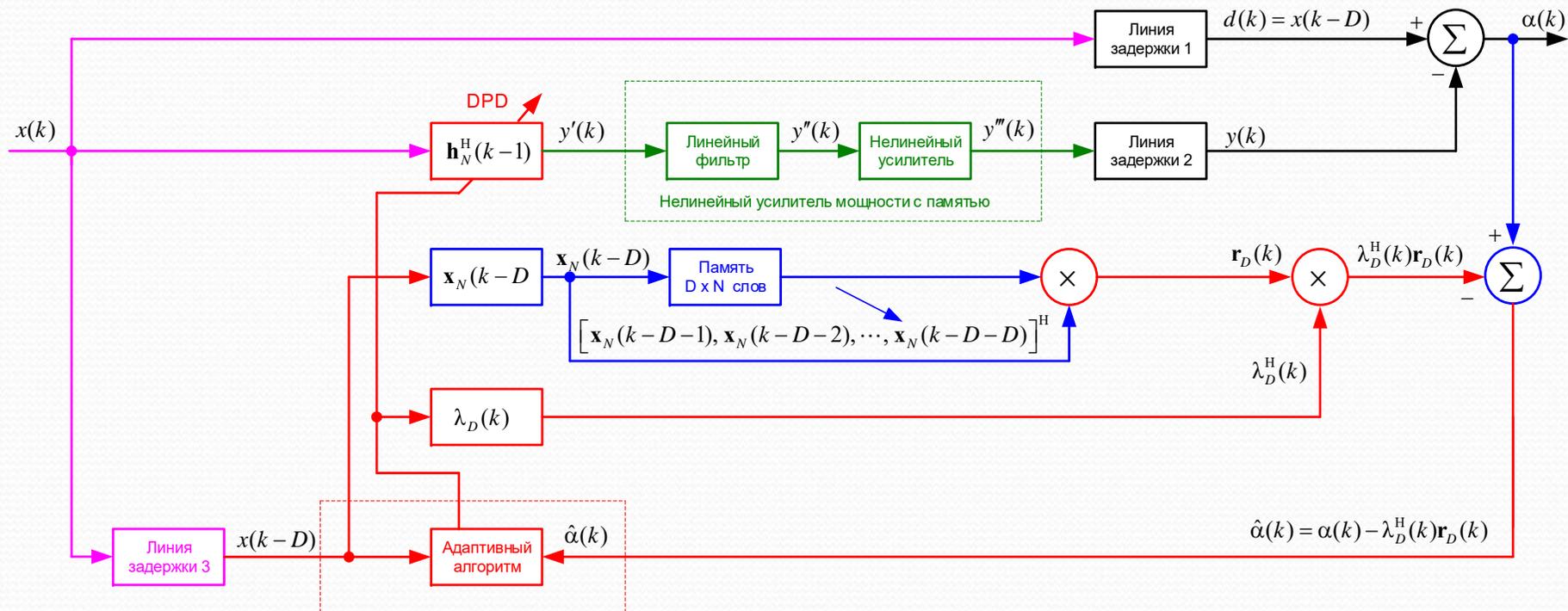
$$\mu_{\max} = < \frac{2}{3 \sum_{m=1}^M (N_m + D) \sigma_{x_m}^2}$$

Модифицированный предсказатель с прямым обучением



Шаг сходимости адаптивного алгоритма: $\mu_{\max} = < \frac{2}{3 \sum_{m=1}^M N_m \sigma_{x_m}^2}$

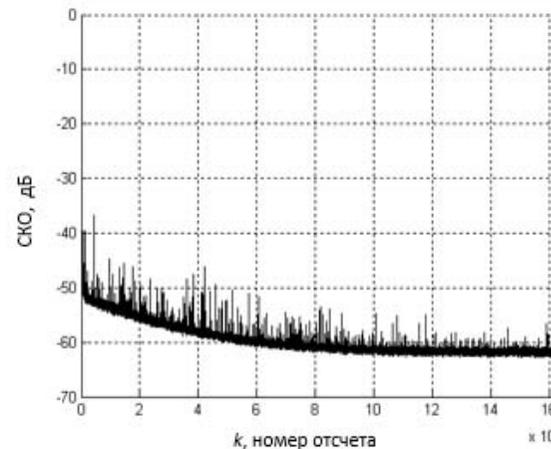
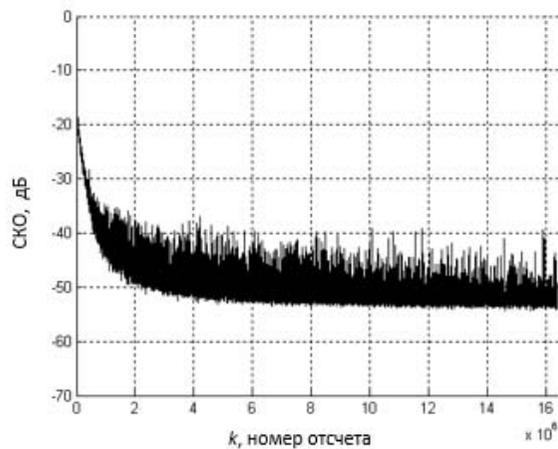
Модифицированный предсказатель с прямым обучением



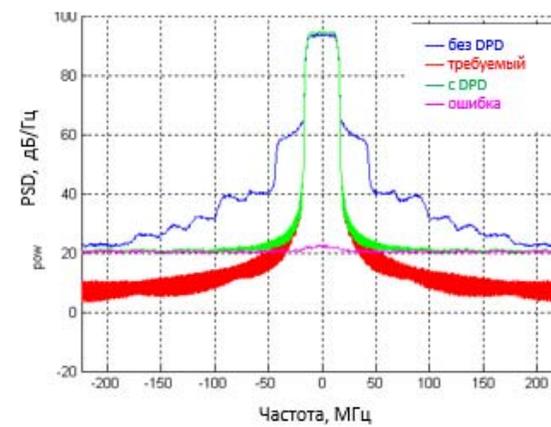
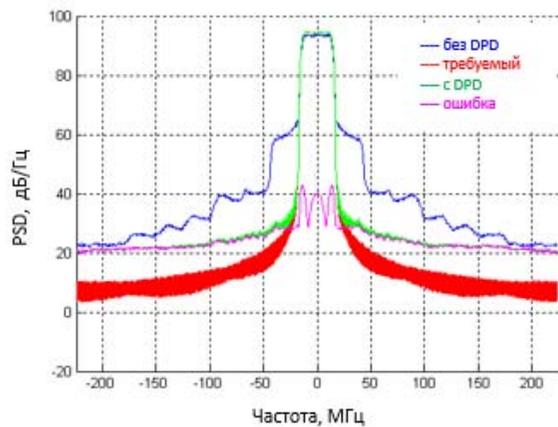
Шаг сходимости адаптивного алгоритма: $\mu_{\max} = < \frac{2}{3 \sum_{m=1}^M N_m \sigma_{x_m}^2}$

Результаты моделирования

СКО



PSD



Традиционный DPD

Модифицир. DPD

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Вопросы ?

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