LPA with ICI rule

Mathematical Models and Methods for Image Processing
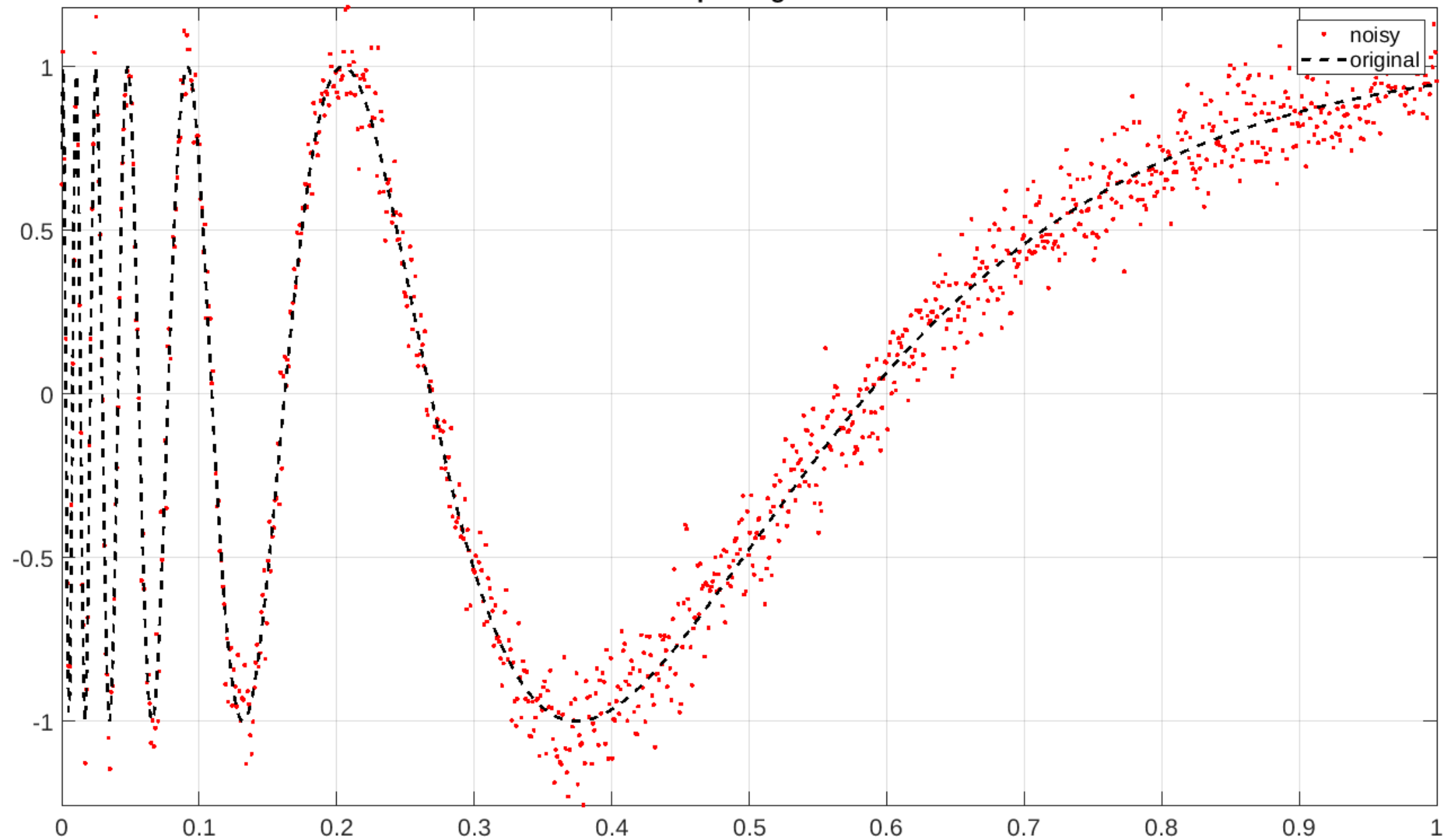
Diego Carrera
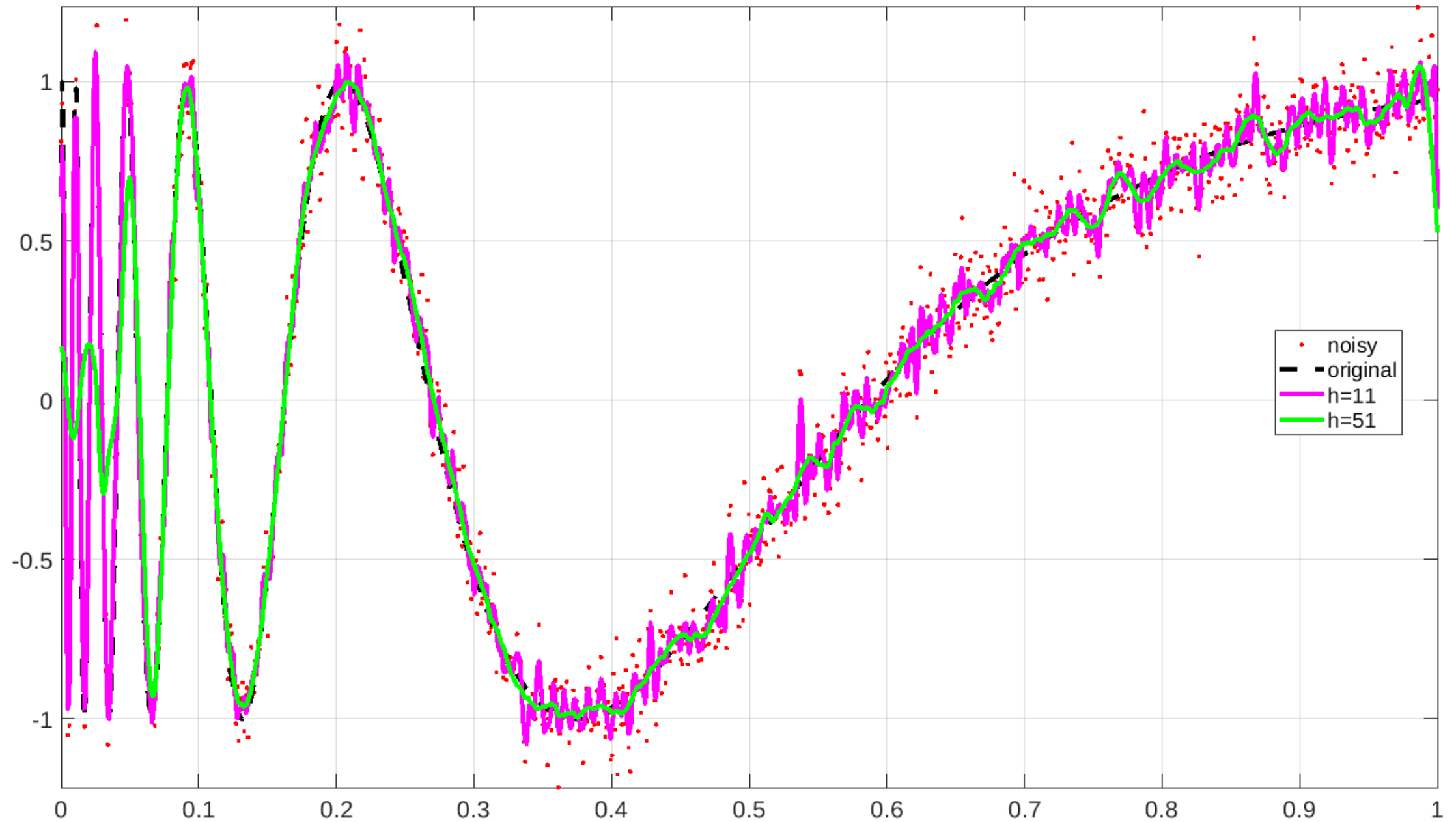
May 18th 2022

Assignment 1: LPA with ICI rule

Implement the LPA with the ICI rule to denoise the sine signal

- Start using the centered windows, then try also the left and right ones

- Try increase the degree of the polynomial N and see what happens to the bias (in the first samples of the signal) and to the variance (in the last samples of the signal)
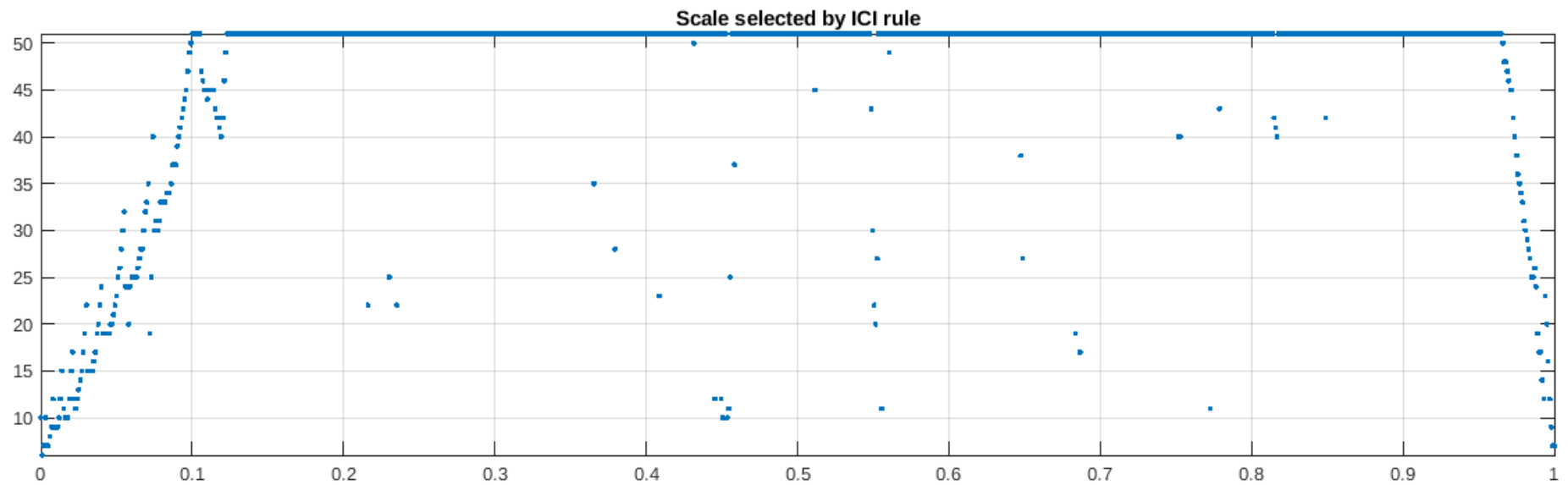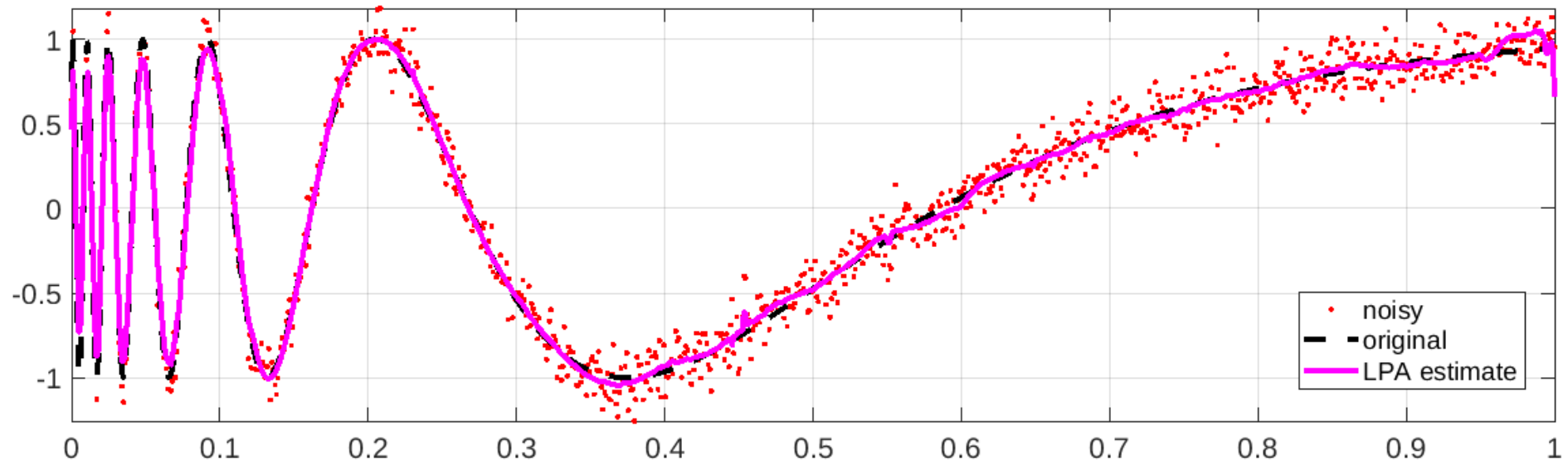
Input Signal

Legend: noisy, original

D. Carrera

N=5, Centered Window

Legend:
- noisy
- original
- h=11
- h=51

D. Carrera

N=5, Centered Window

D. Carrera
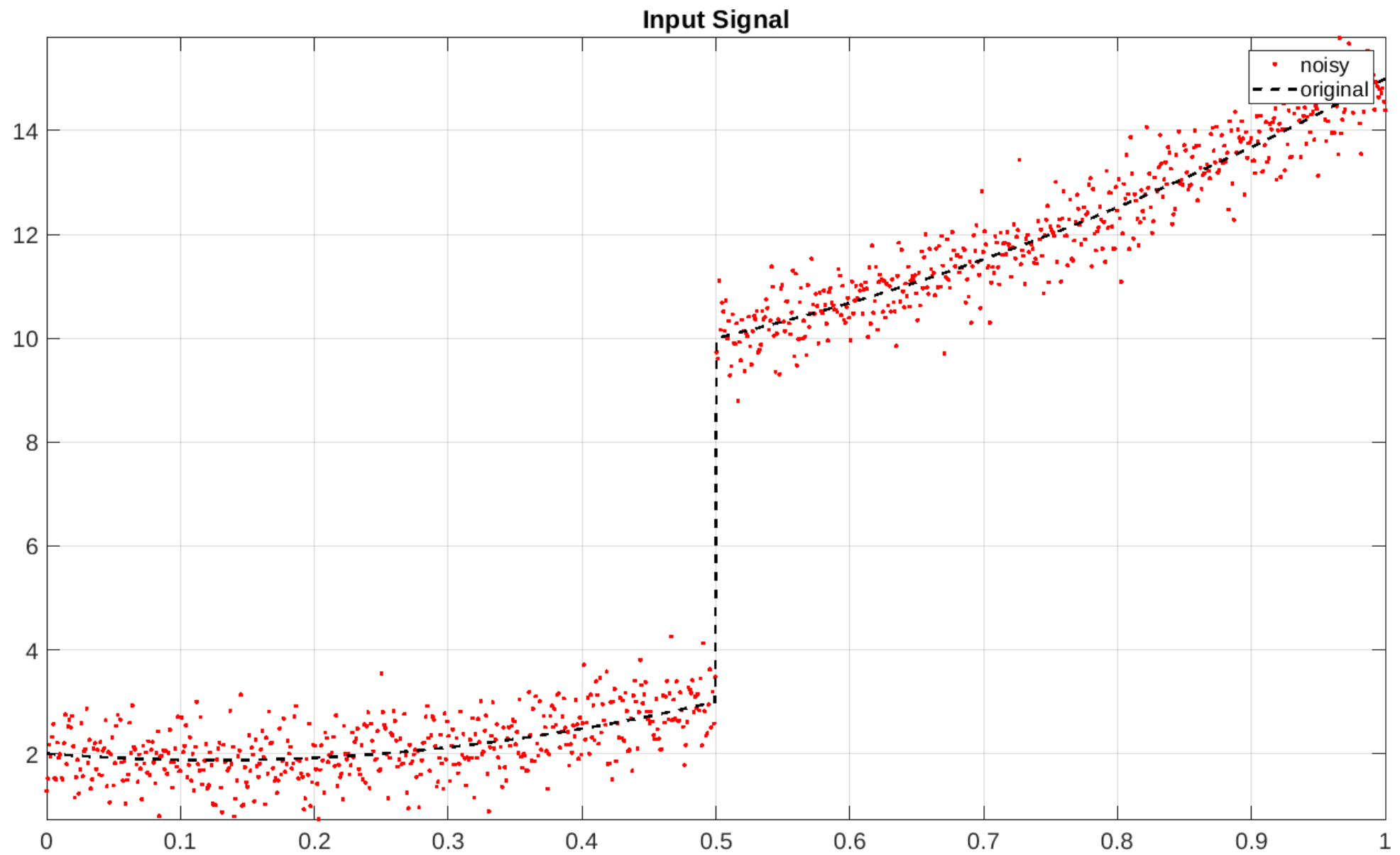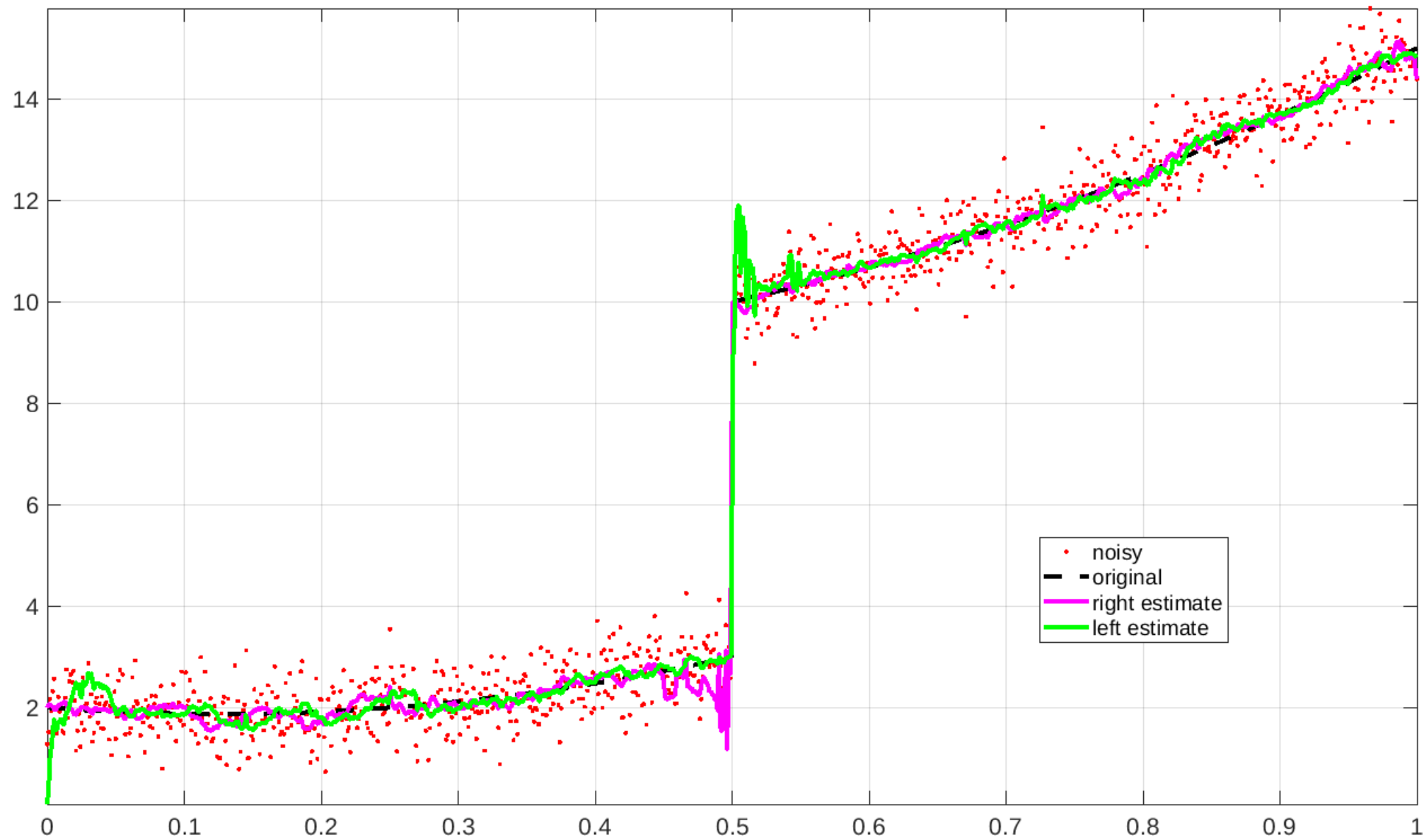
Assignment 2: LPA-ICI with aggregation

Implement the LPA with the ICI rule performin aggregation of the two estimates provided by the left and right windows.

D. Carrera

Input Signal

noisy
original

D. Carrera

N = 1

- noisy
- - original
- right estimate
- left estimate

D. Carrera

N = 1

- noisy
- original
- right estimate
- left estimate
- aggregate

D. Carrera