

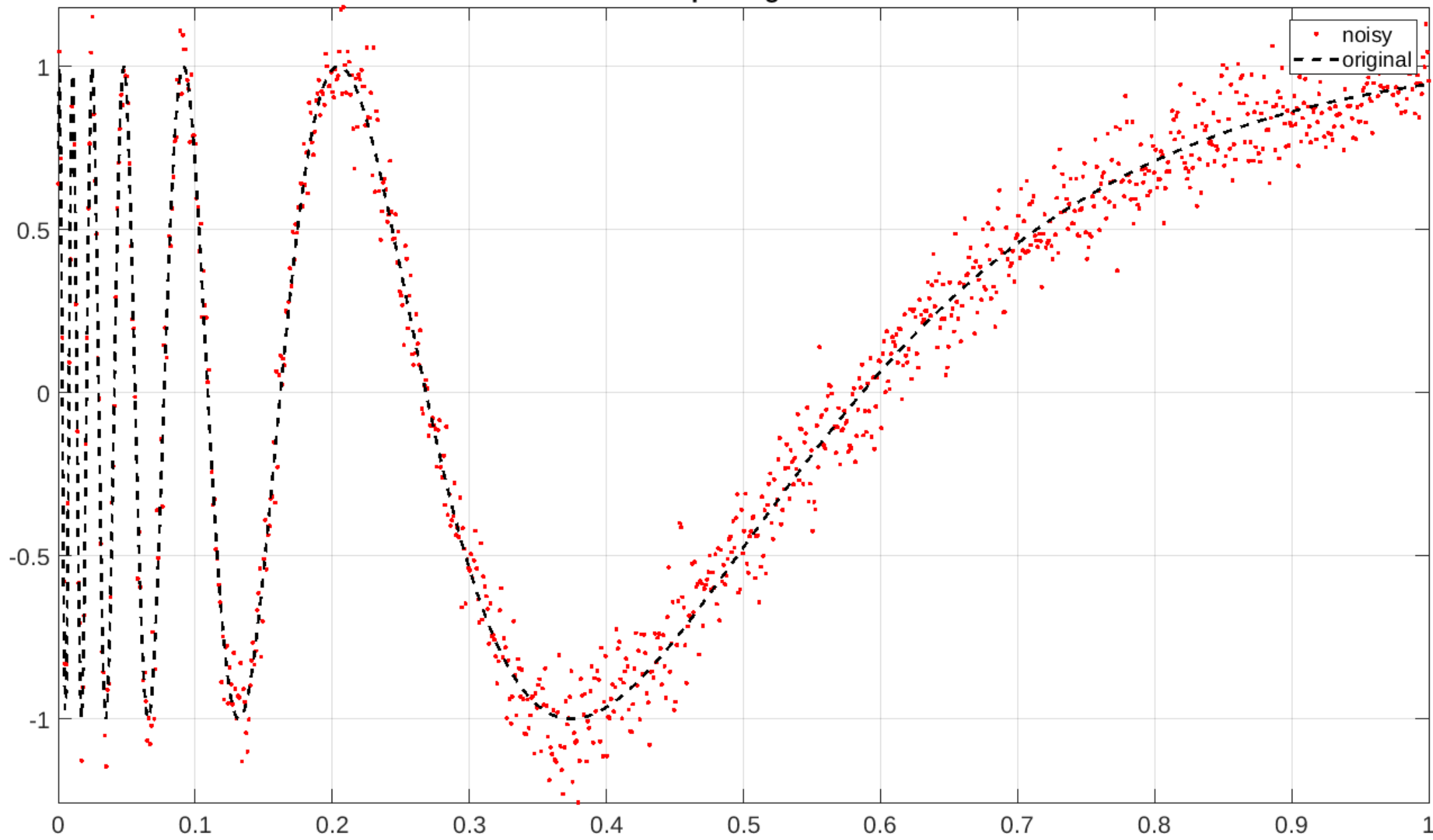
LPA with ICI rule

Mathematical Models and Methods for Image
Processing

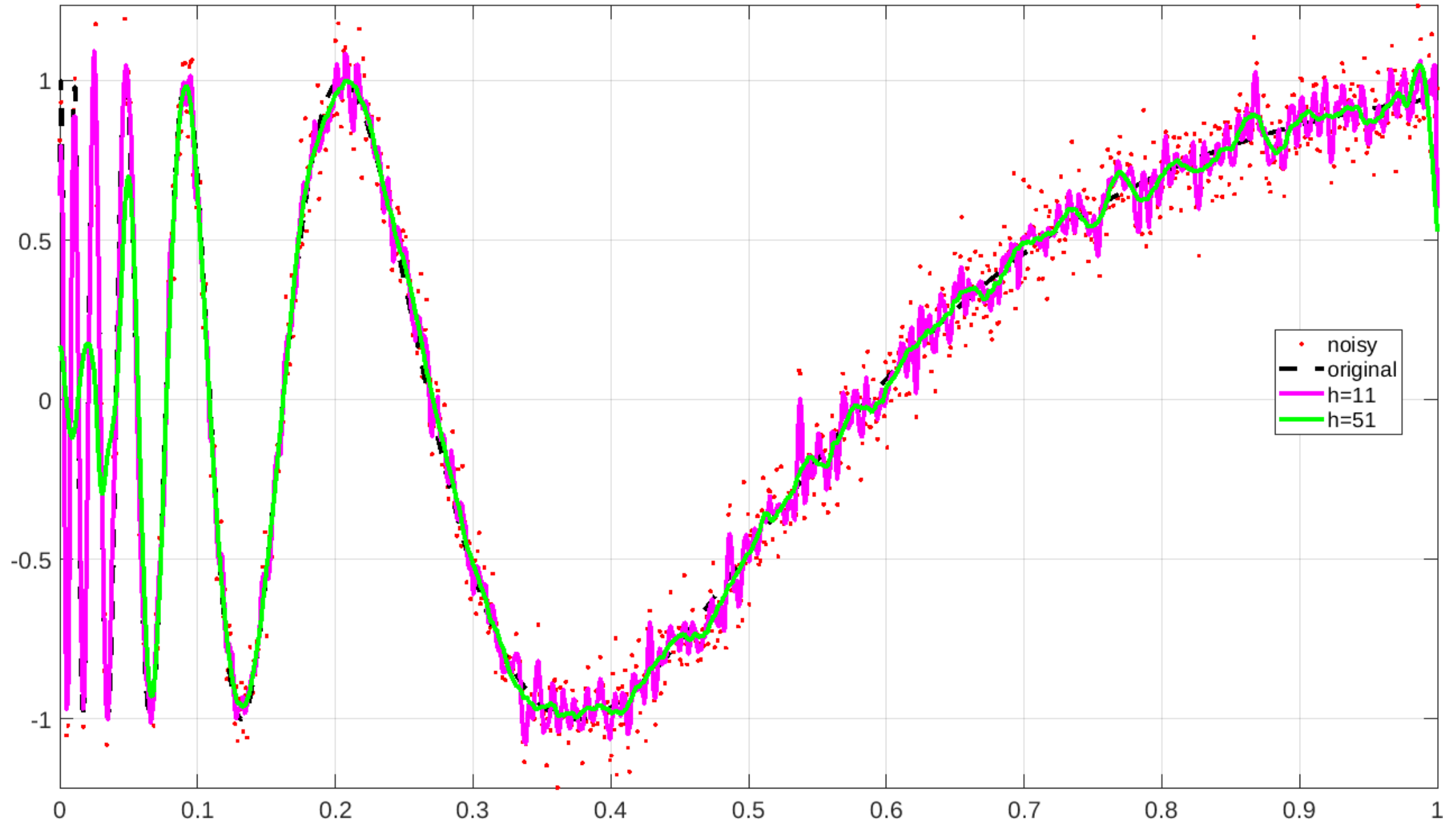
Stefano Bertolasi

May 12th 2026

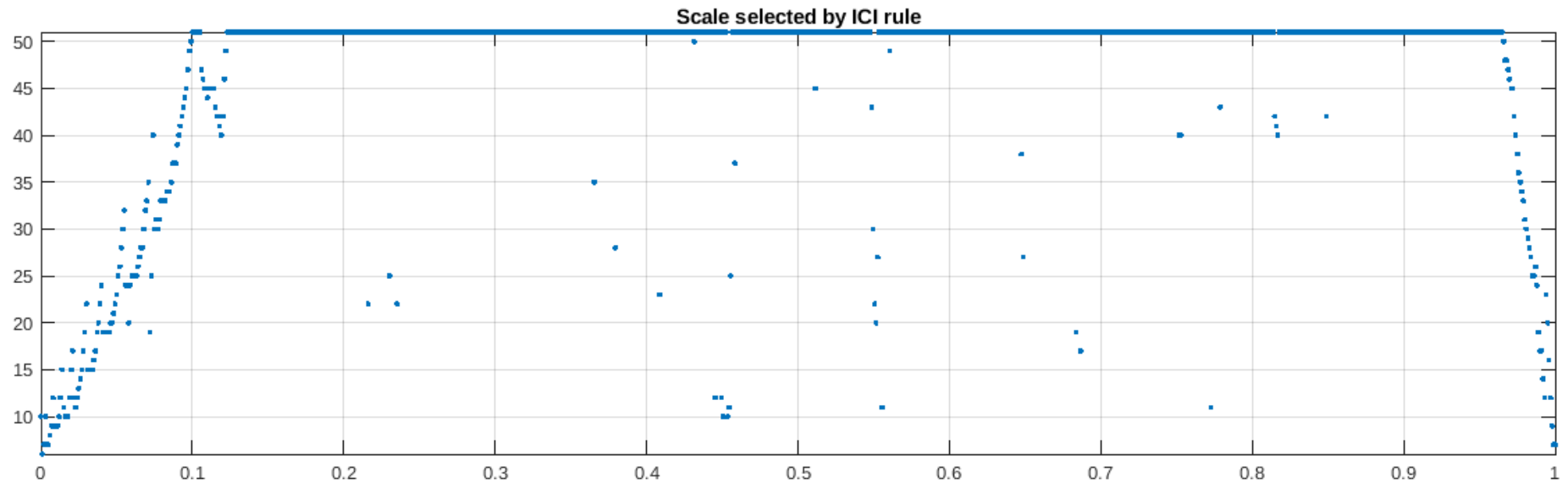
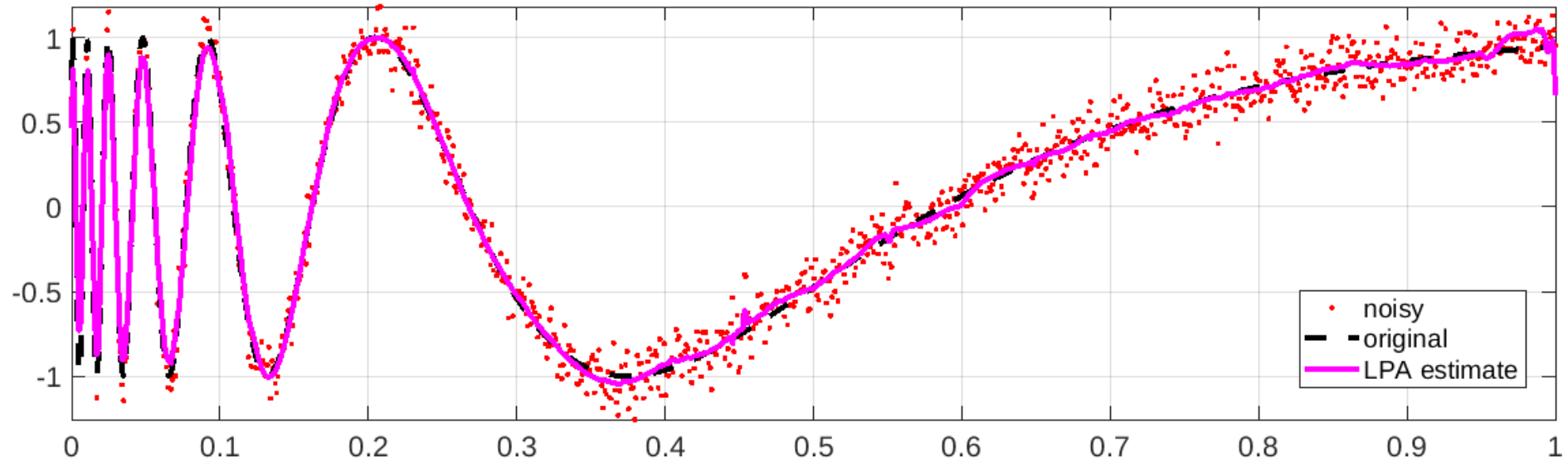
Input Signal



N=5, Centered Window



N=5, Centered Window

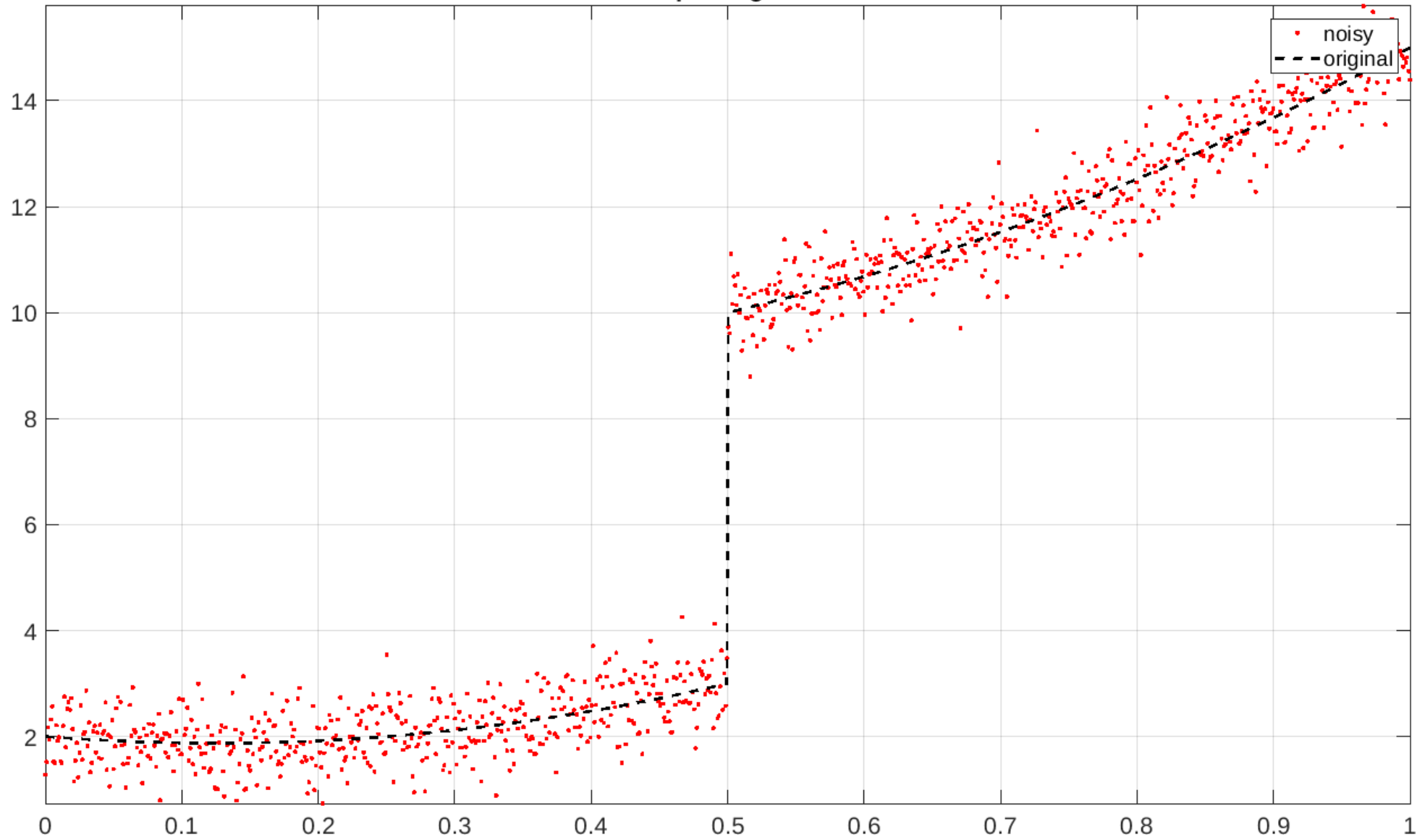


Assignment 1: LPA with ICI rule

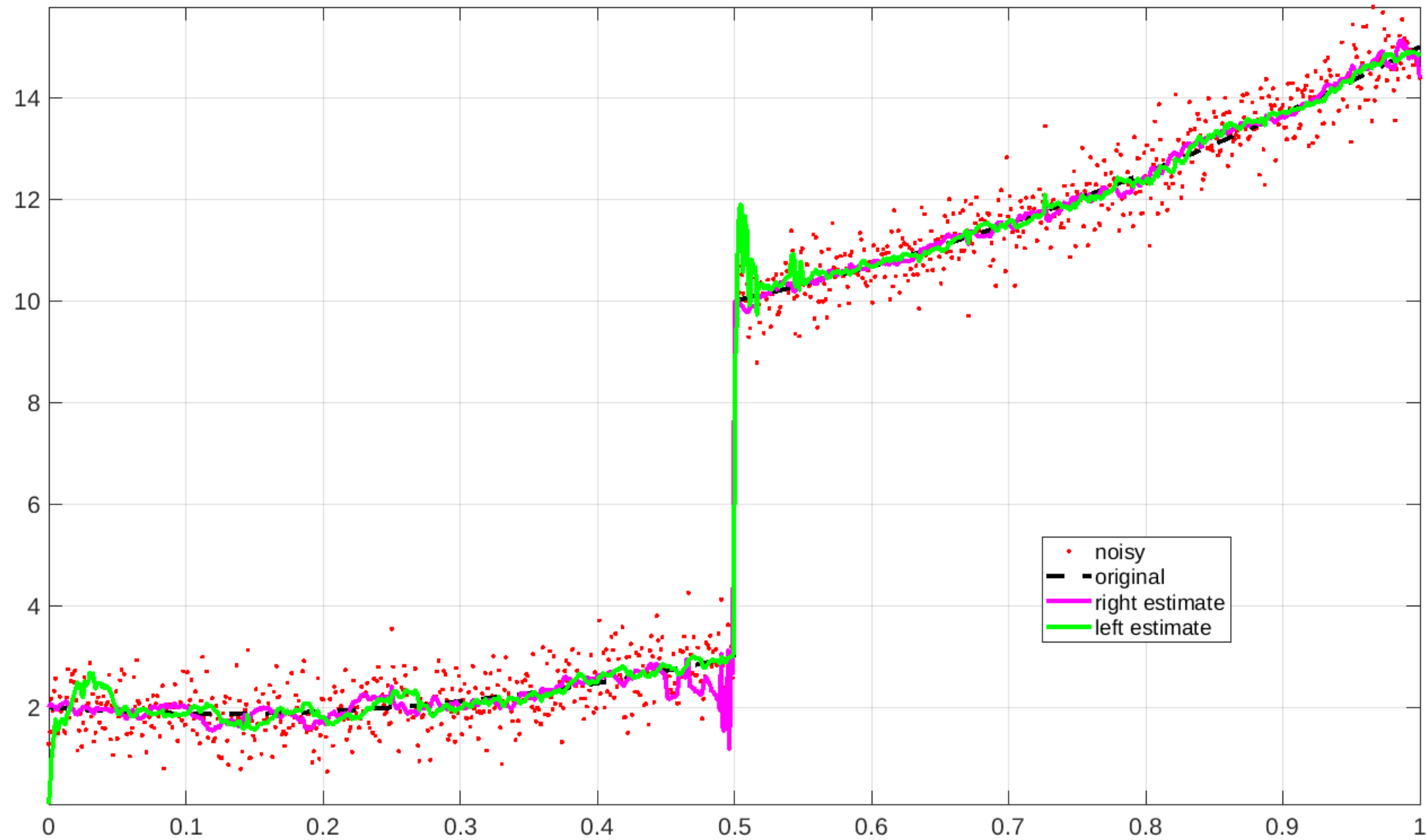
Implement the LPA with the ICI rule to denoise the sine signal

- 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)

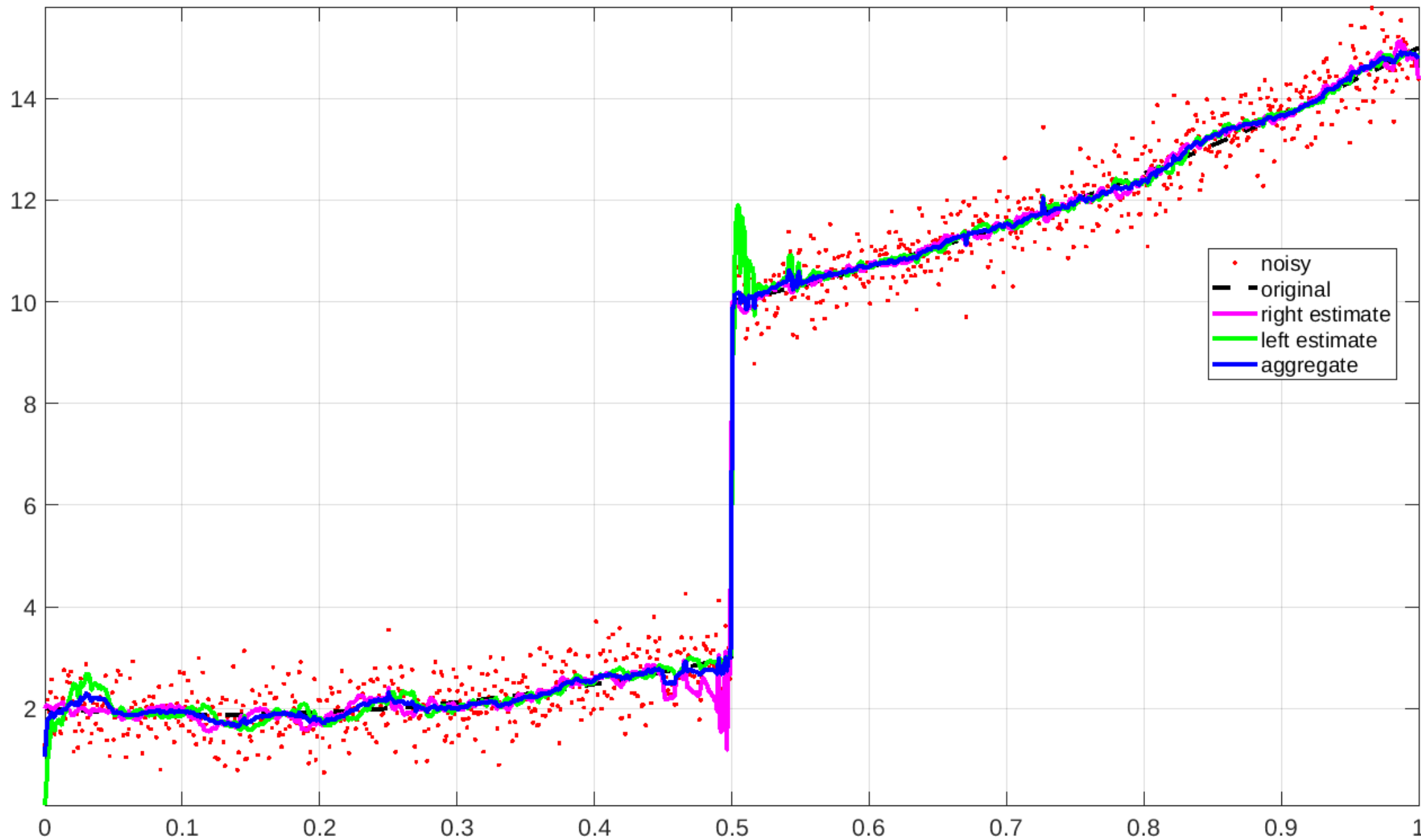
Input Signal



N = 1



N = 1



Assignment 2: LPA-ICI with aggregation

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