

Exercise: House market (asking Prices) 2015

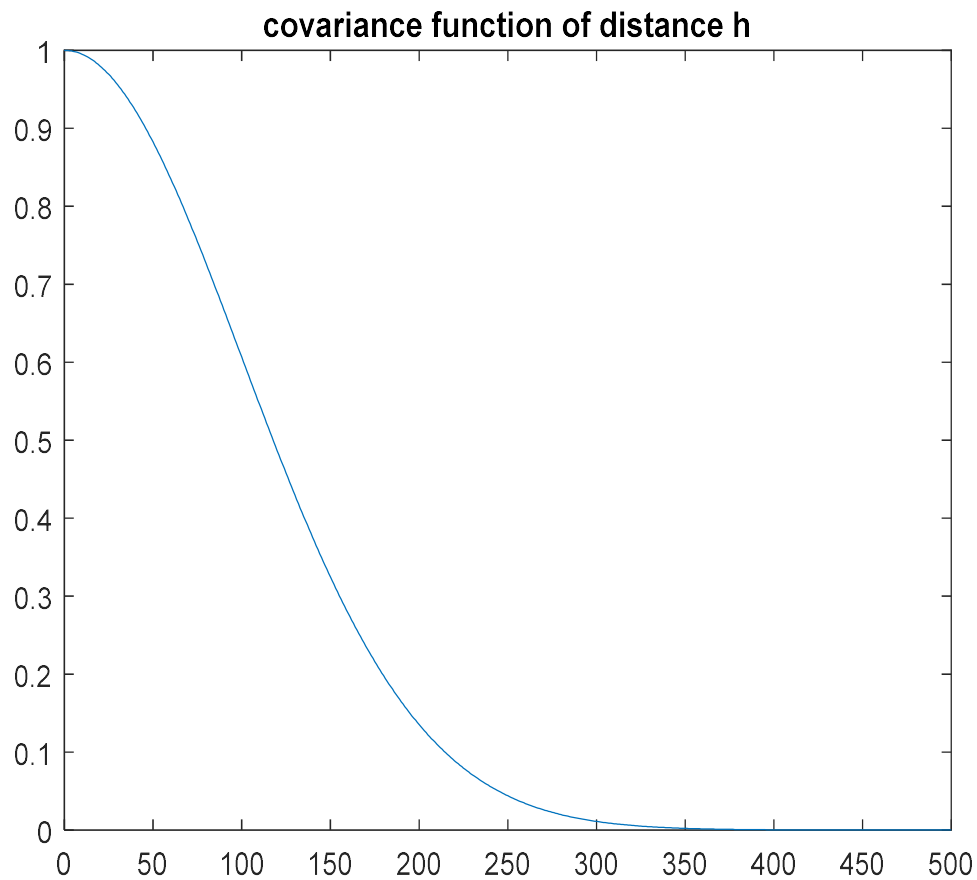
We have the following information about the asking price per meter square (€/m²) in 2015. We assume a local area (plane) where property one acts as the origin. Coordinates are given in meters

address	x (m)	Y (m)	price/m2
Property 1	0	0	€ 5,479
Property 2	23	289	€ 3,687
Property 3	51	435	€ 3,451
Property 4	-10	-44	€ 5,520
Property 5	45	-42	€ 3,666
new location 1 (barycentre)	21.8	127.6	?

1. Compute estimates of price/m² for the new locations 1 and 2, using interpolation techniques:
 - a. Thiessen polygons
 - b. Inverse distance (with Euclidian distance)
2. Write the Ordinary Kriging solution for this problem (use a Gaussian like form for the covariance function).
3. Compute Kriging Variance

See excel sheet for answers

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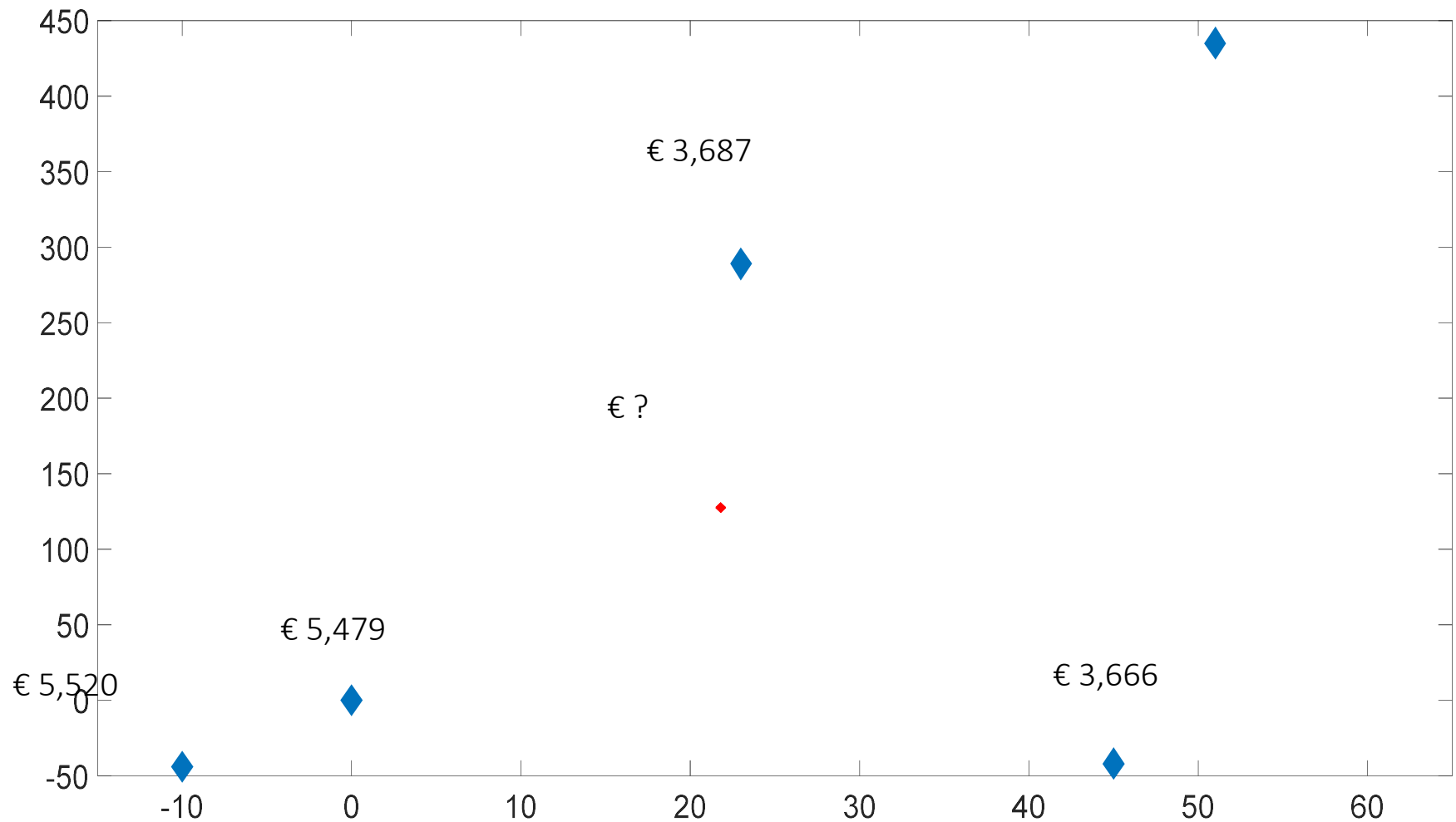


Use covariance function

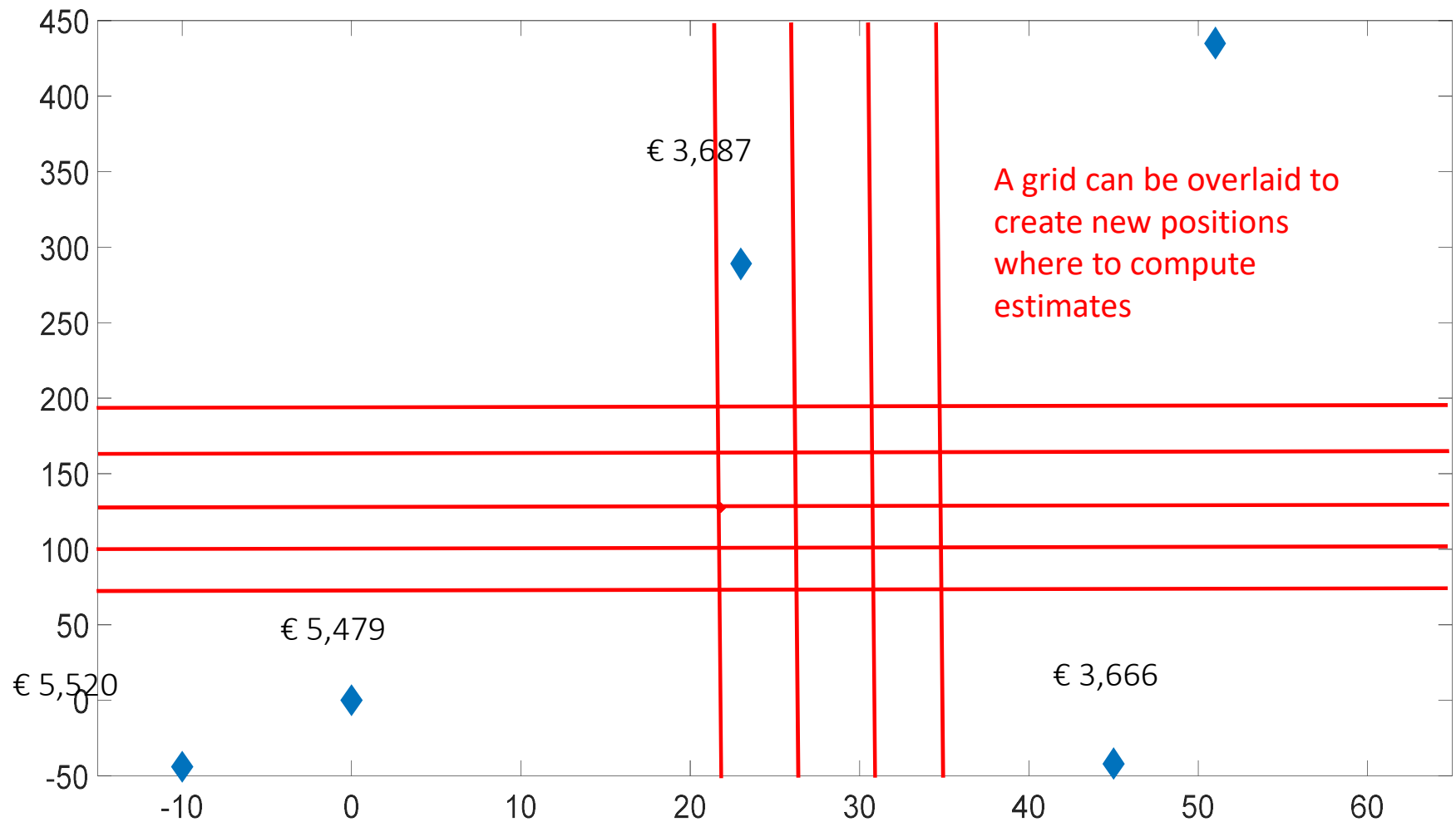
$$C(h) = \exp\left(-\frac{h^2}{2 \text{ range}^2}\right)$$

With range=100m

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Example: Amsterdam

When computation (interpolation / kriging) of estimates is done on all positions $\{x_0\}$ on a grid spanning an area, a map can be generated and visualised using colour coding (e.g. red high prices area, blue for low price area)

