

Contamination Characteristics of the Confluence of Polluted and Unpolluted Rivers – Range and Spatial Distribution of Contaminants of a Significant Mining Centre (Kutná Hora, Czech Republic)

JAN HORÁK and MICHAL HEJCMAN

*Department of Ecology, Faculty of Environmental Sciences, Czech University of Life
Sciences Prague, Prague, Czech Republic*

Electronic supplementary material (ESM)

Figure S21. Kriging; pdf contains basic model parameters and variograms for interpolations of As, Cu, Pb, Zn and magnetic susceptibility in depths 10 to 80 cm

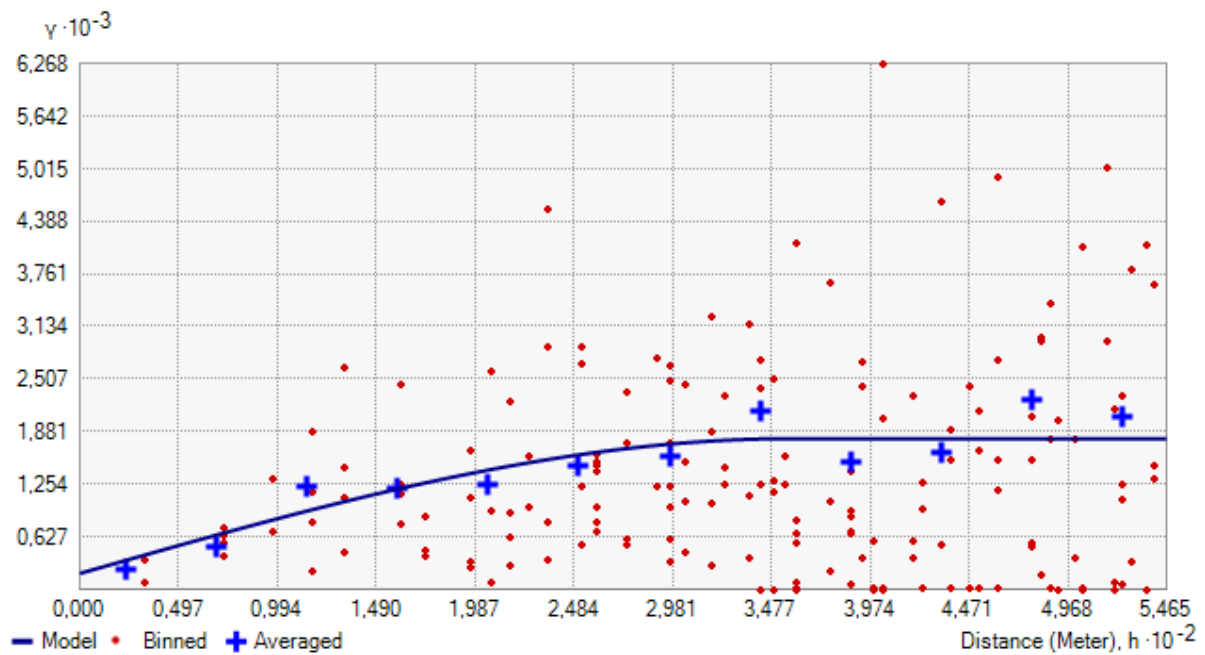
Arsenic

Kriging parameters:

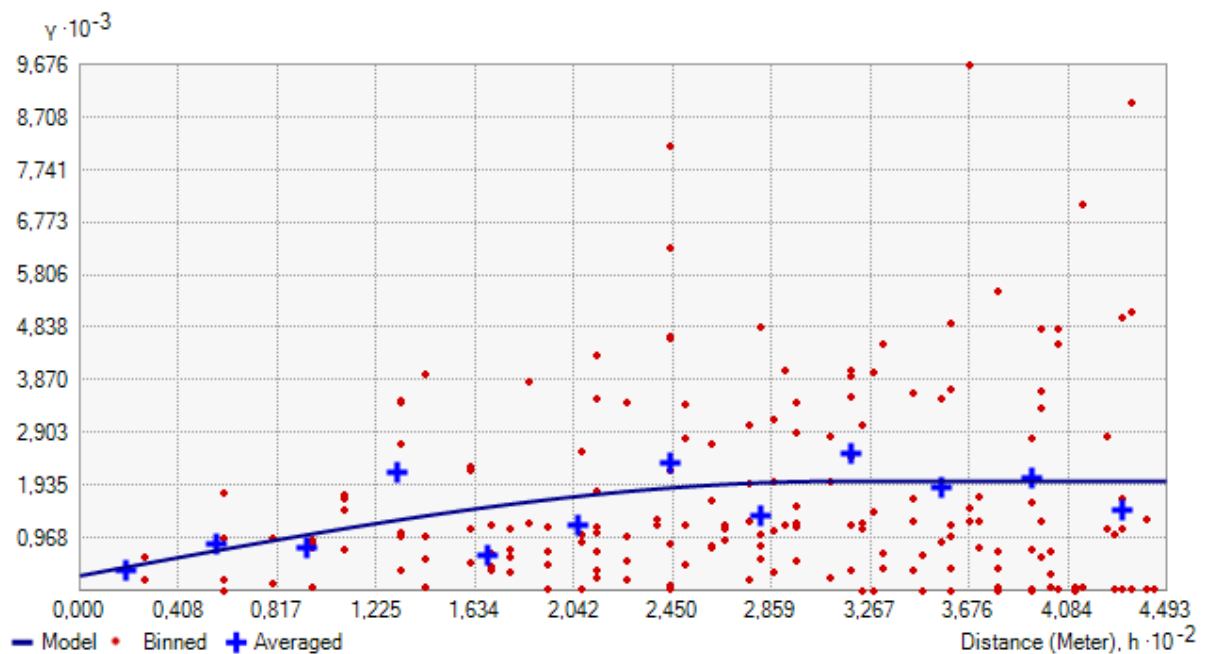
data	partial sill	nugget	range	lag size	lags number
As 10 conc	1606.402	190.344	357.461	45.538	12
As 20 conc	1739.601	268.320	315.748	37.437	12
As 30 conc	2849.345	0	387.661	45.276	12
As 40 conc	2230.545	1973.231	1238.324	103.193	12
As 50 conc	2817.347	2173.304	1238.324	103.193	12
As 60 conc	1575.467	2980.213	970.624	91.963	12
As 70 conc	2872.663	2927.660	1141.181	99.687	12
As 80 conc	269.702	4441.744	203.505	23.613	12
As 10 clr	0.081	0	452.936	60.044	12
As 20 clr	0.087	0.004	478.513	66.604	12
As 30 clr	0.086	0.020	503.883	89.868	12
As 40 clr	0.062	0.058	697.255	62.876	12
As 50 clr	0.075	0.058	660.563	63.239	12
As 60 clr	0.066	0.075	573.064	57.339	12
As 70 clr	0.102	0.096	750.178	62.514	12
As 80 clr	0.068	0.091	476.355	48.797	12

Arsenic concentrations variograms:

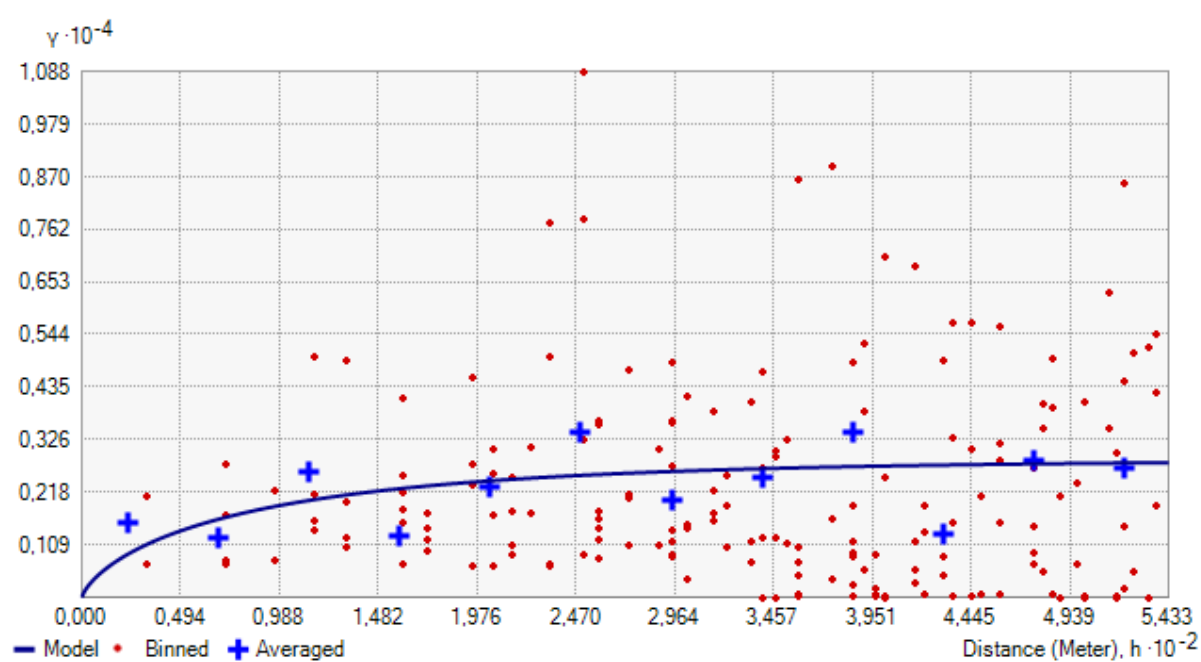
As 10 conc



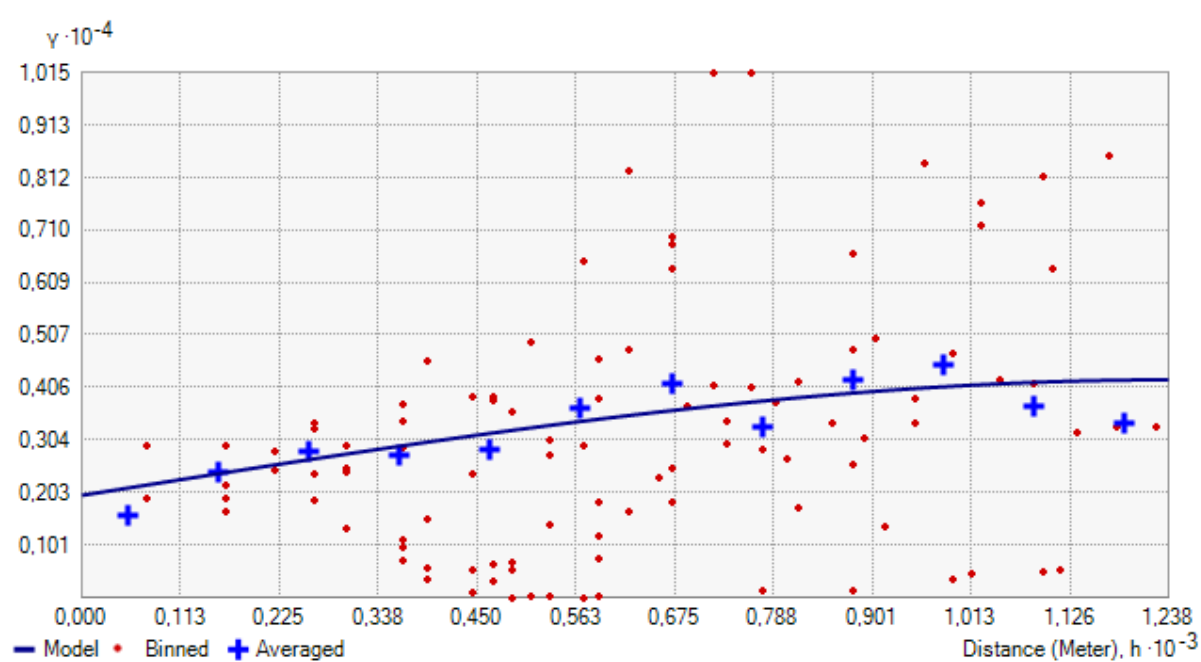
As 20 conc



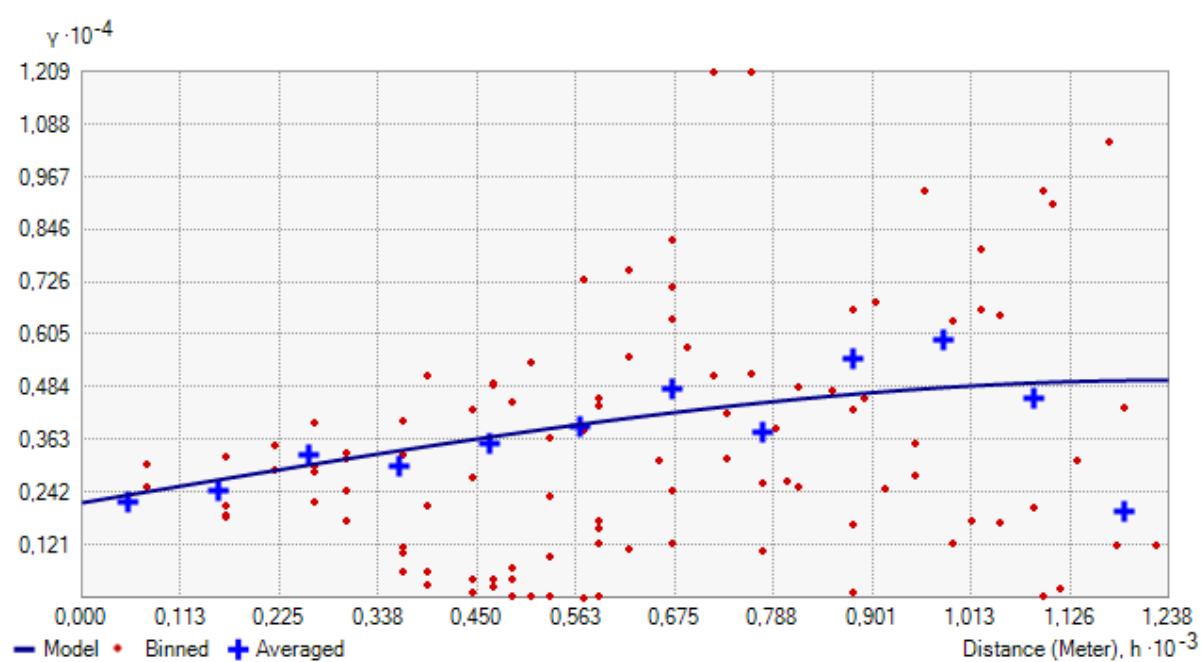
As 30 conc



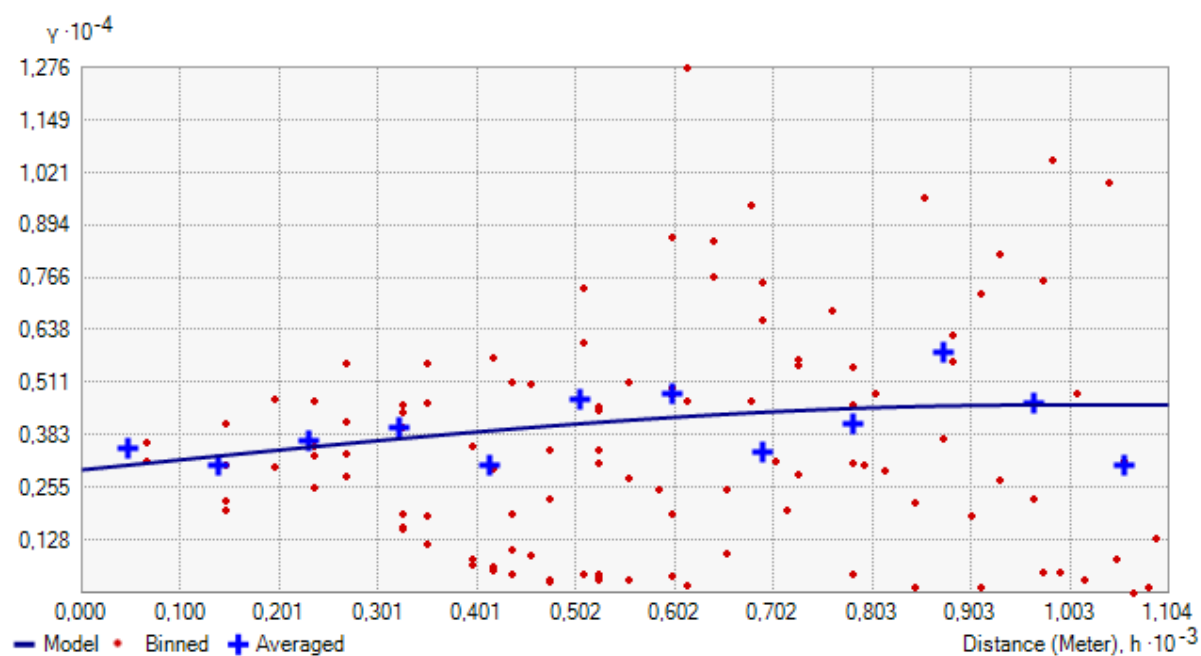
As 40 conc



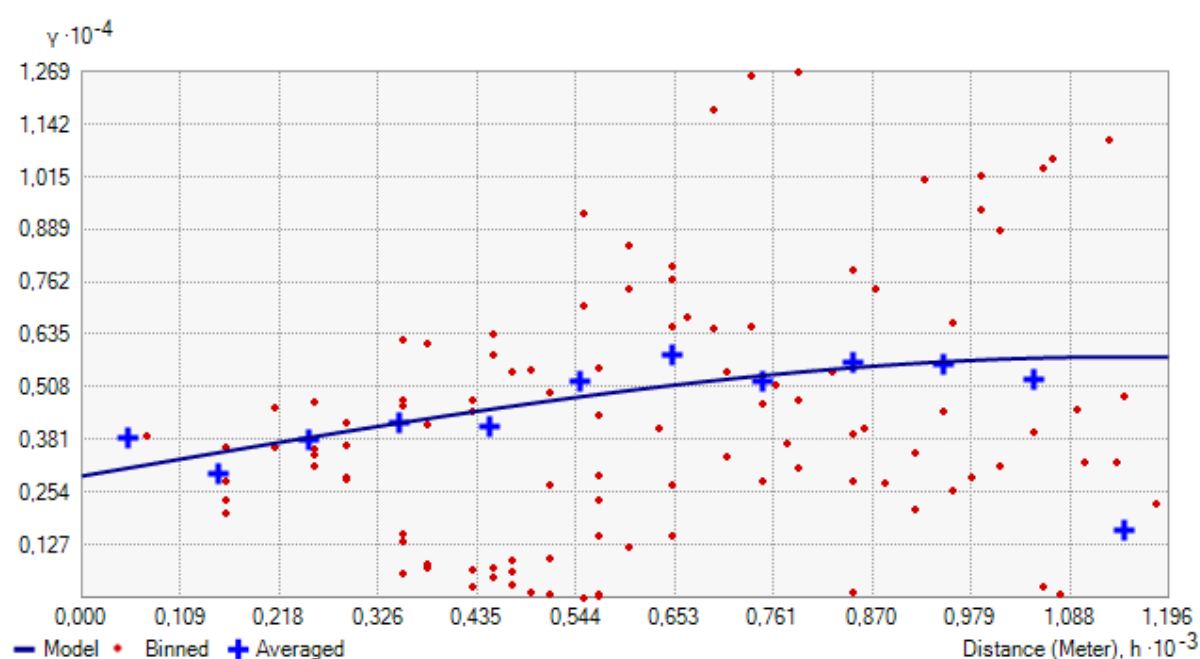
As 50 conc



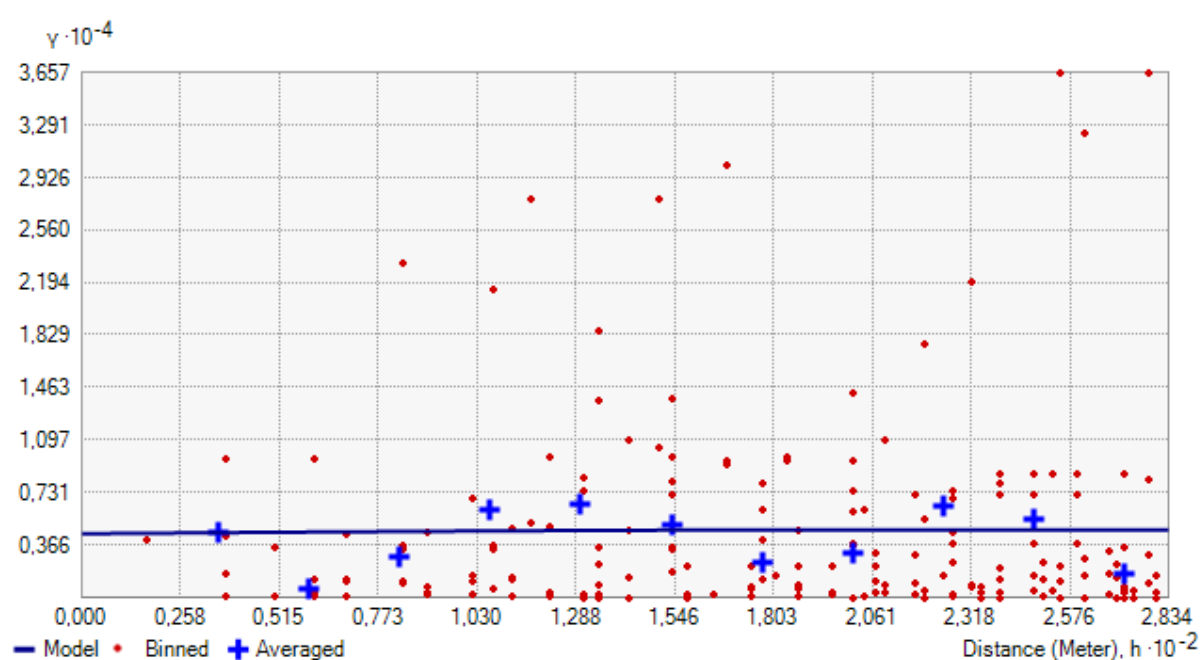
As 60 conc



As 70 conc

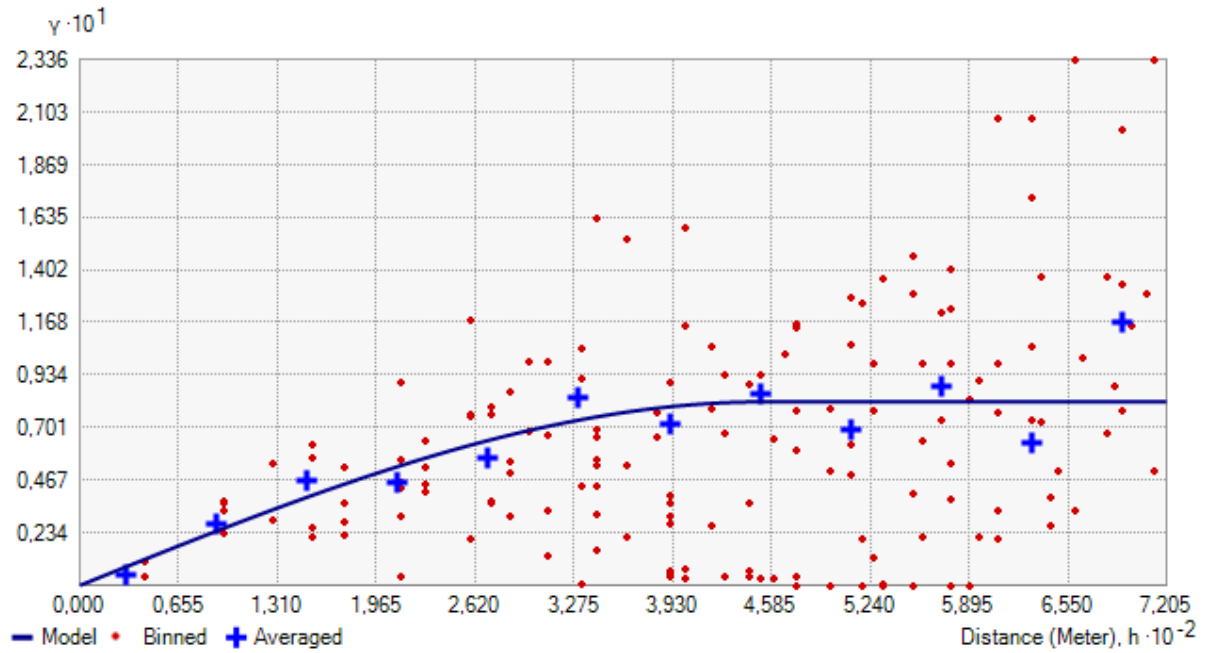


As 80 conc

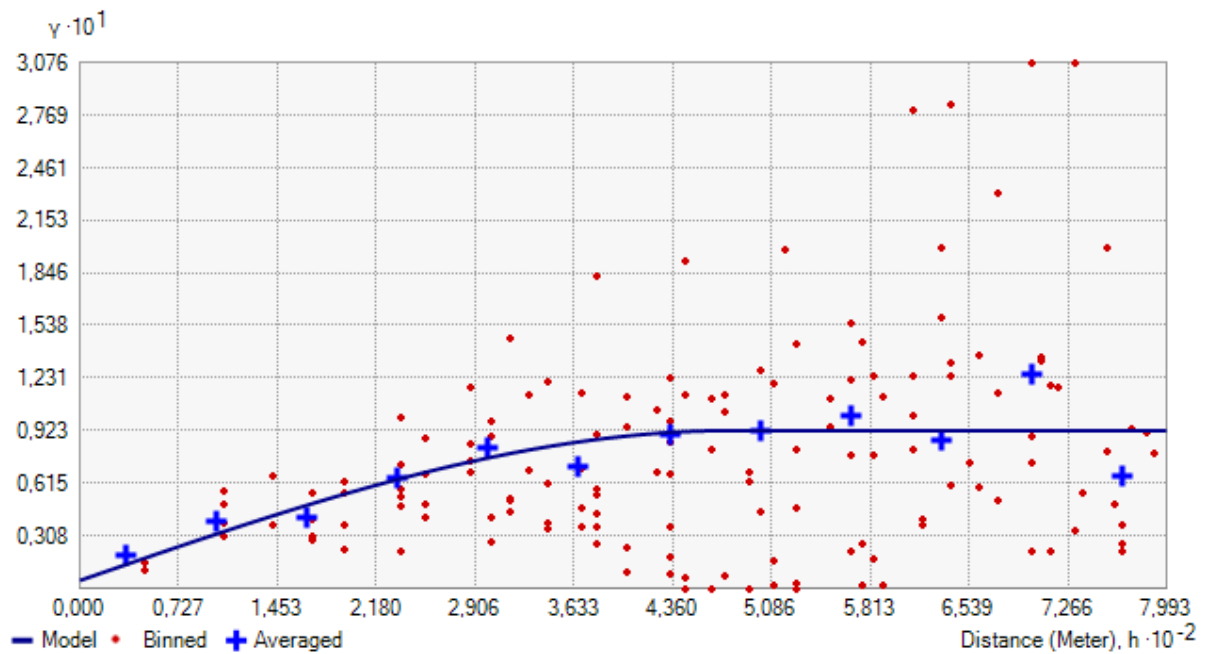


Arsenic clr values variograms:

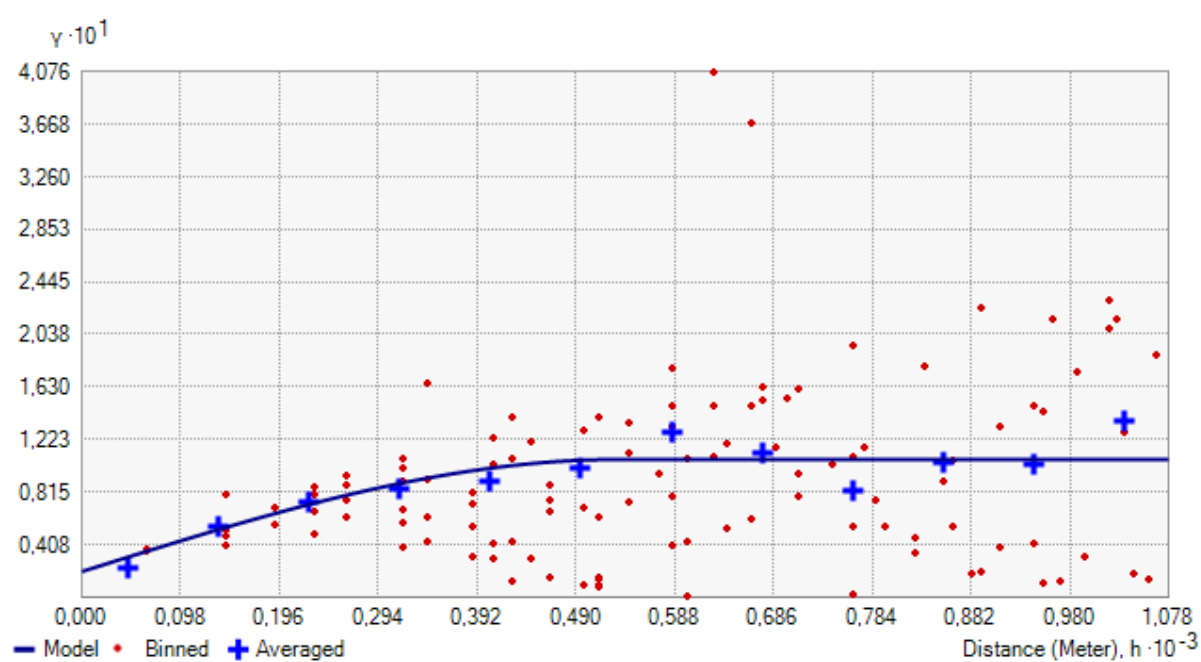
As 10 clr



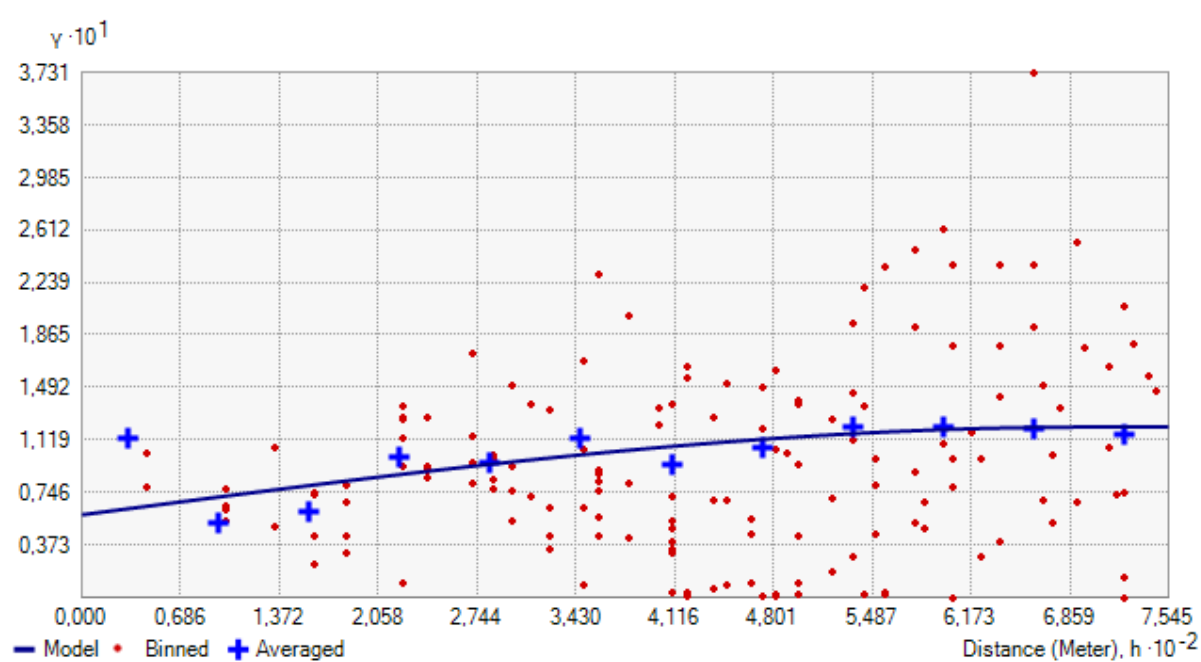
As 20 clr



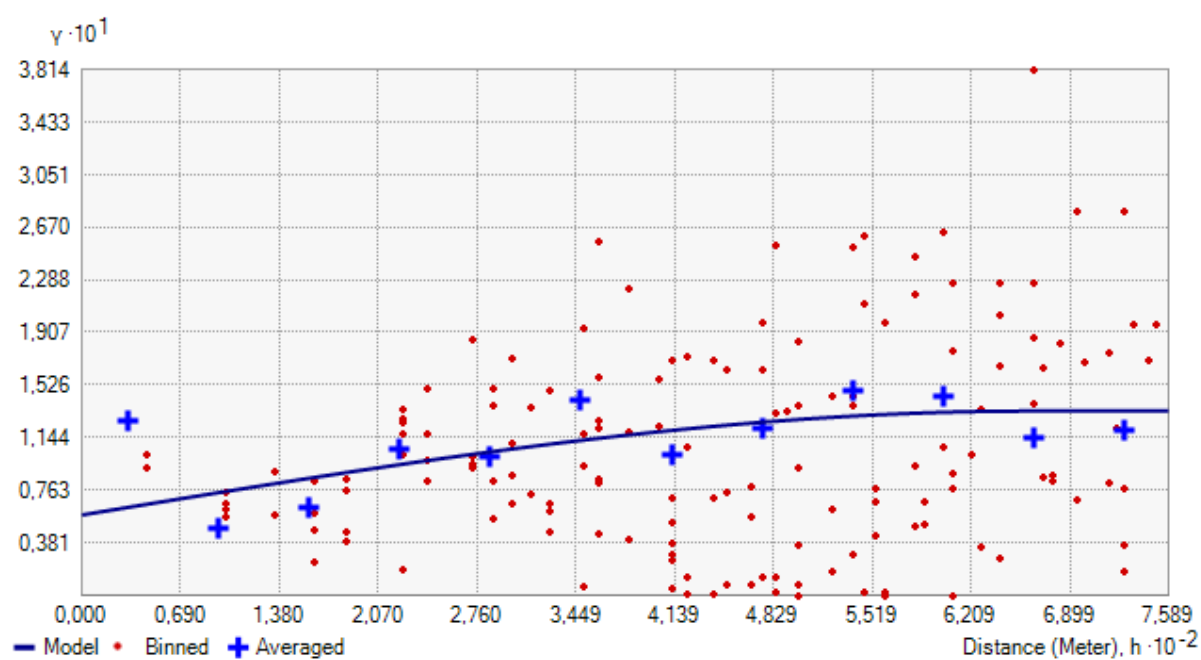
As 30 clr



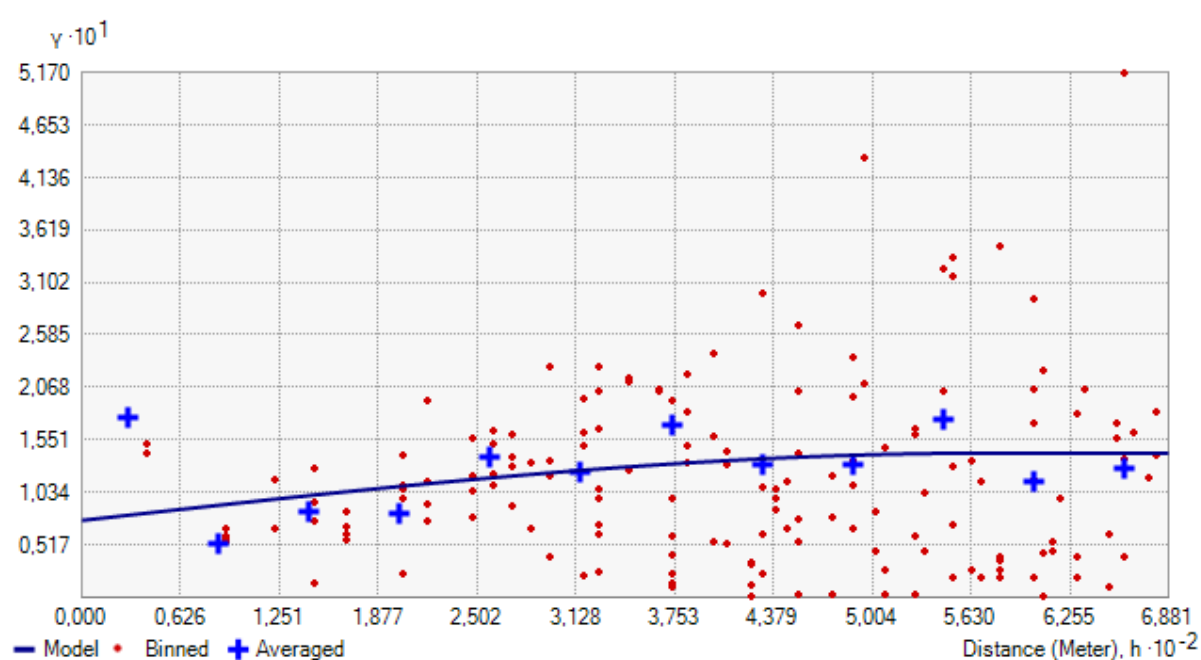
As 40 clr



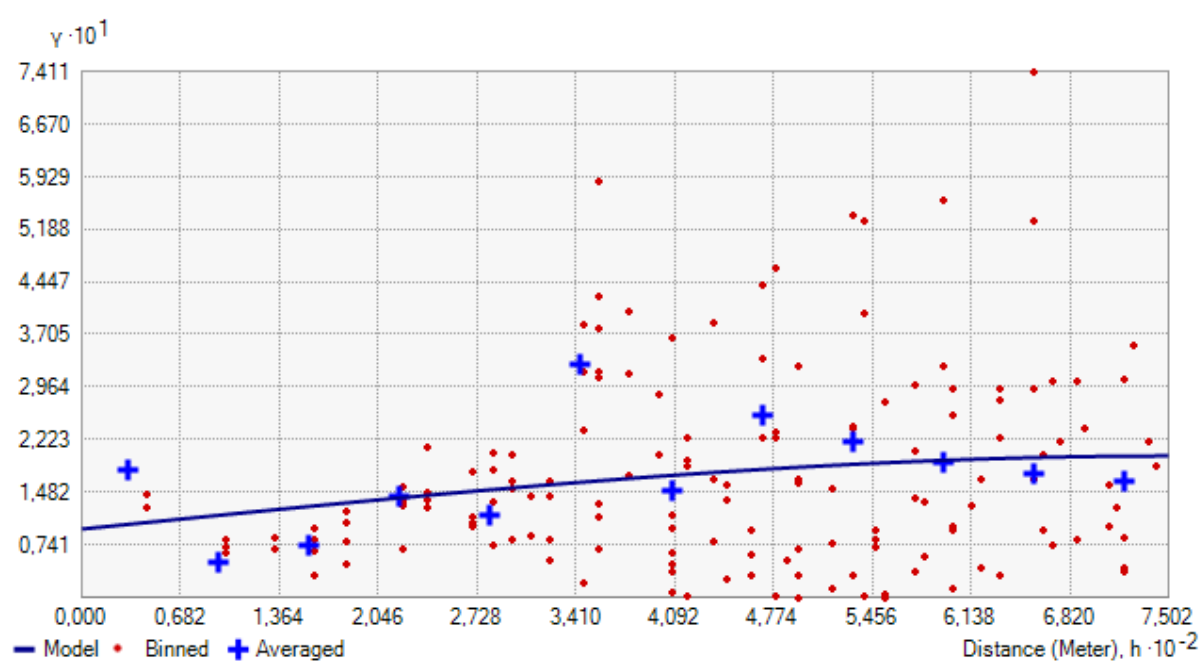
As 50 clr



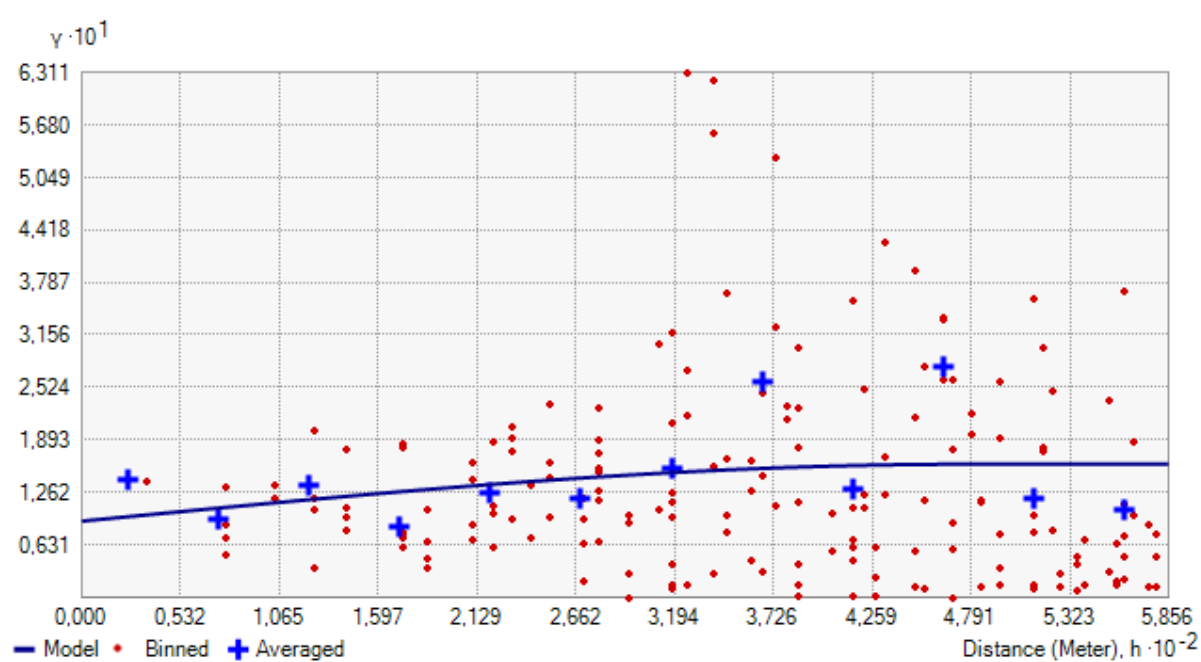
As 60 clr



As 70 clr



As 80 clr



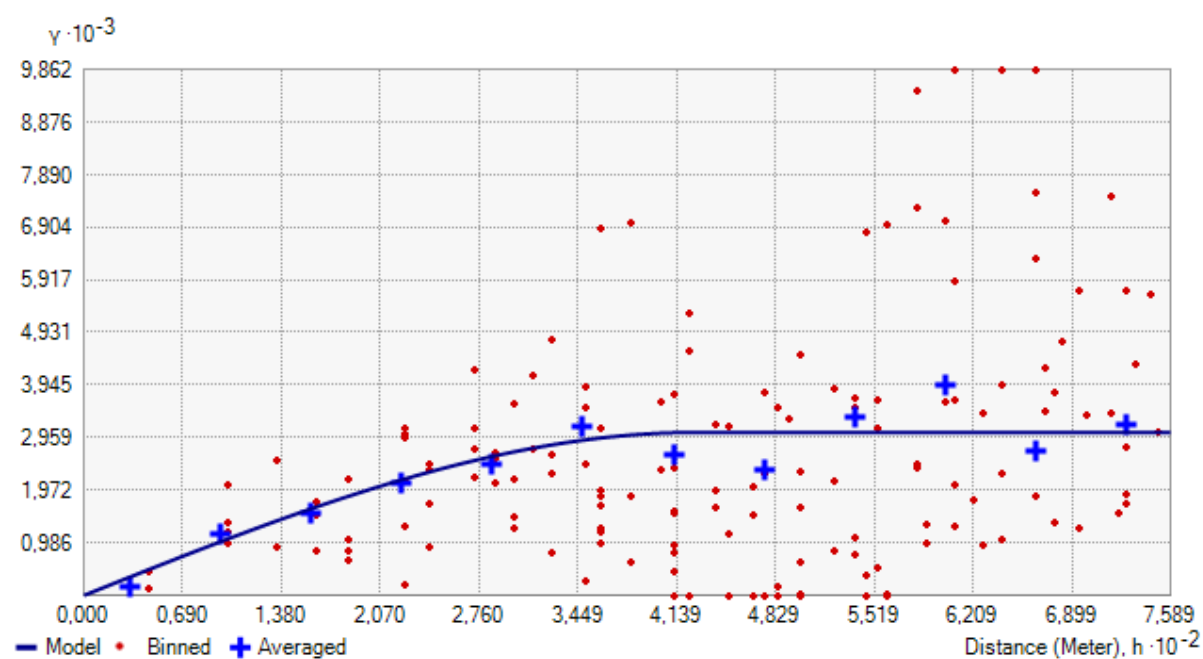
Copper

Kriging parameters:

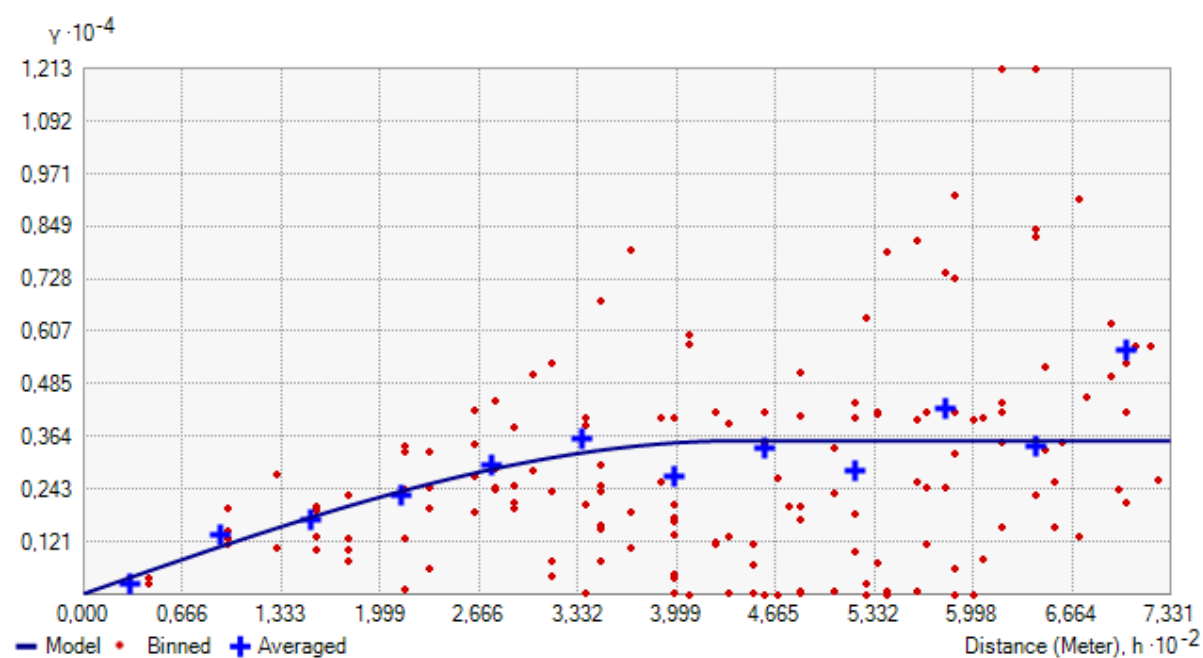
data	partial sill	nugget	range	lag size	lags number
Cu 10 conc	3055.581	0	427.113	63.239	12
Cu 20 conc	3529.454	14.500	442.148	61.090	12
Cu 30 conc	3589.161	241.736	304.937	63.239	12
Cu 40 conc	2916.839	1203.438	570.843	88.328	12
Cu 50 conc	2909.194	1535.410	652.255	94.107	12
Cu 60 conc	1732.240	2189.839	616.292	63.239	12
Cu 70 conc	3163.241	1603.460	695.796	65.087	12
Cu 80 conc	330.399	3146.612	283.357	23.613	12
Cu 10 clr	0.103	0	488.219	59.699	12
Cu 20 clr	0.122	0	510.520	63.239	12
Cu 30 clr	0.120	0	461.676	63.604	12
Cu 40 clr	0.106	0.032	612.204	60.390	12
Cu 50 clr	0.097	0.041	577.041	59.699	12
Cu 60 clr	0.071	0.049	577.891	56.682	12
Cu 70 clr	0.113	0.055	754.513	62.876	12
Cu 80 clr	0.072	0.060	484.822	49.363	12

Copper concentrations variograms:

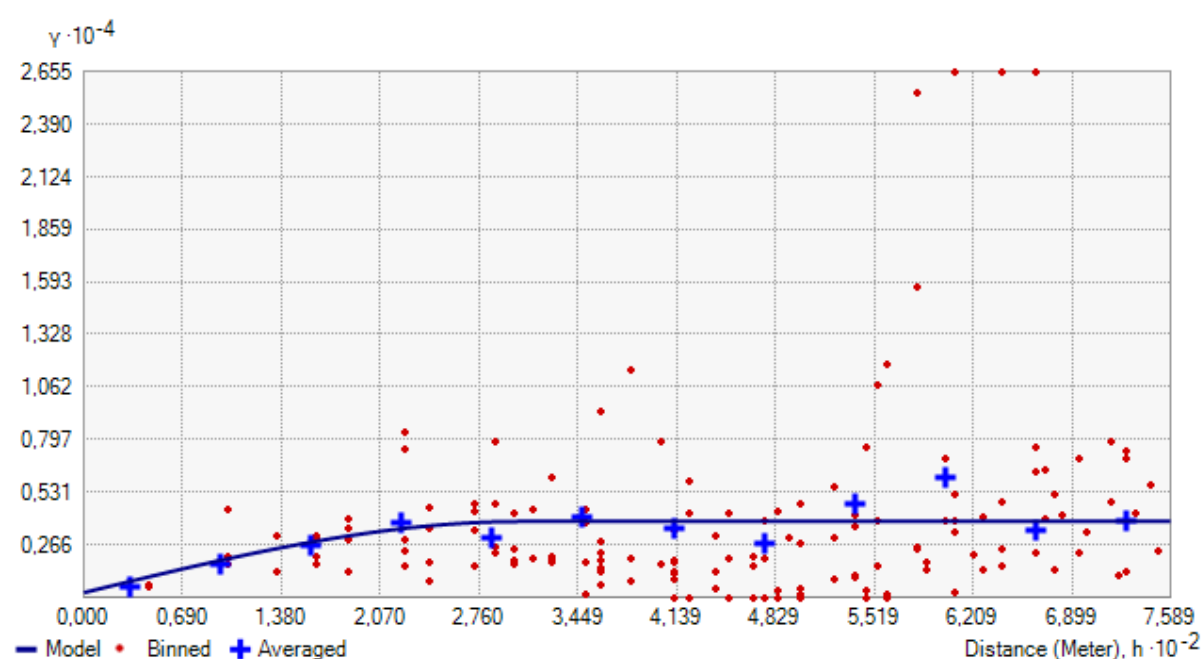
Cu 10 conc



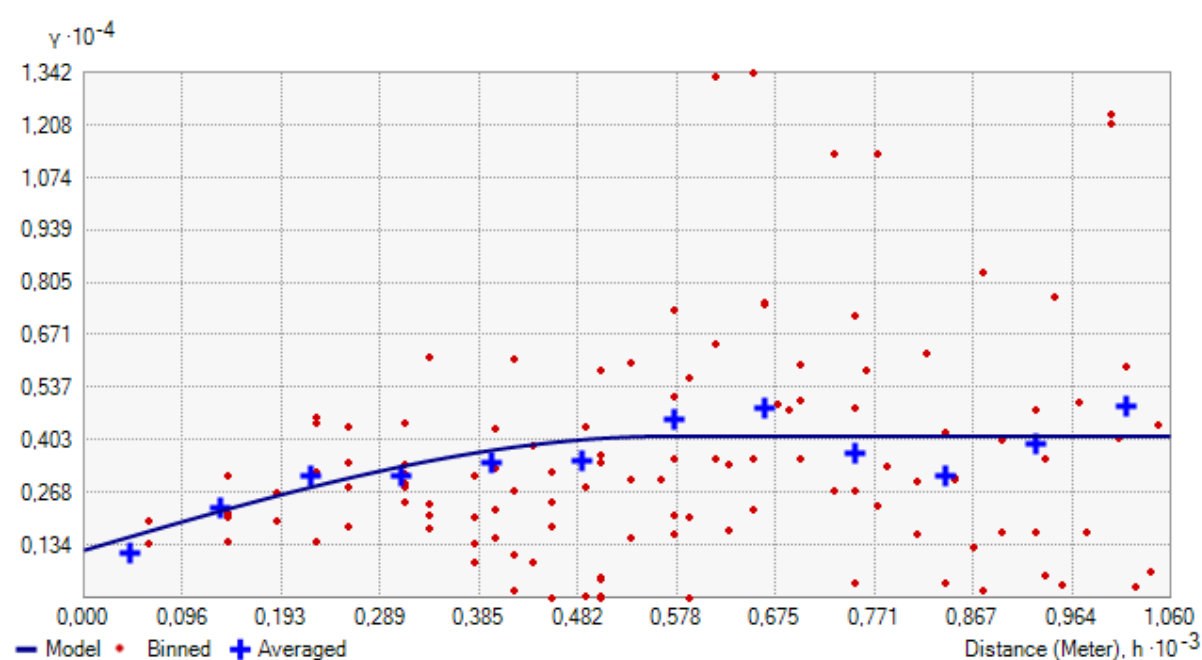
Cu 20 conc



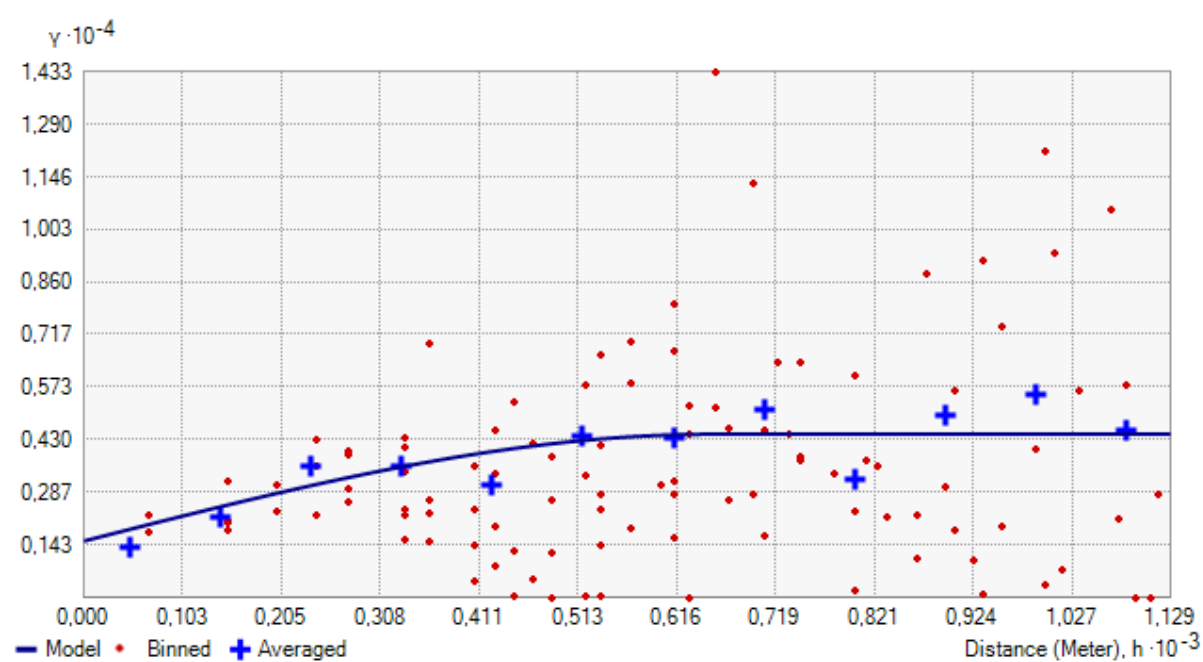
Cu 30 conc



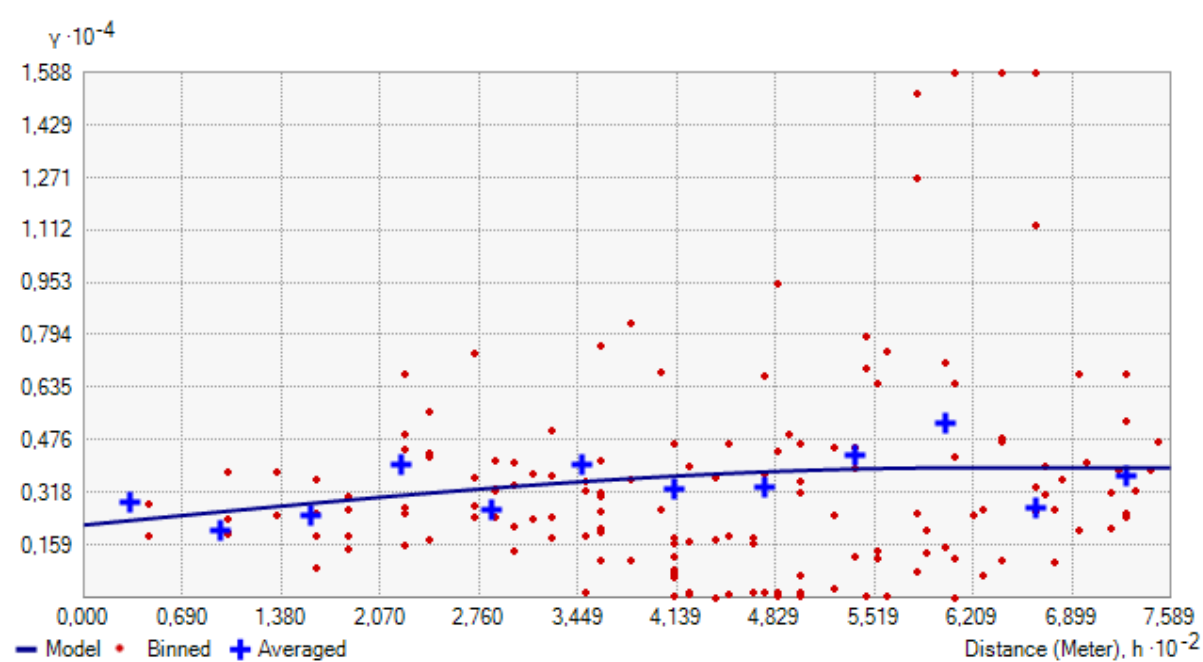
Cu 40 conc



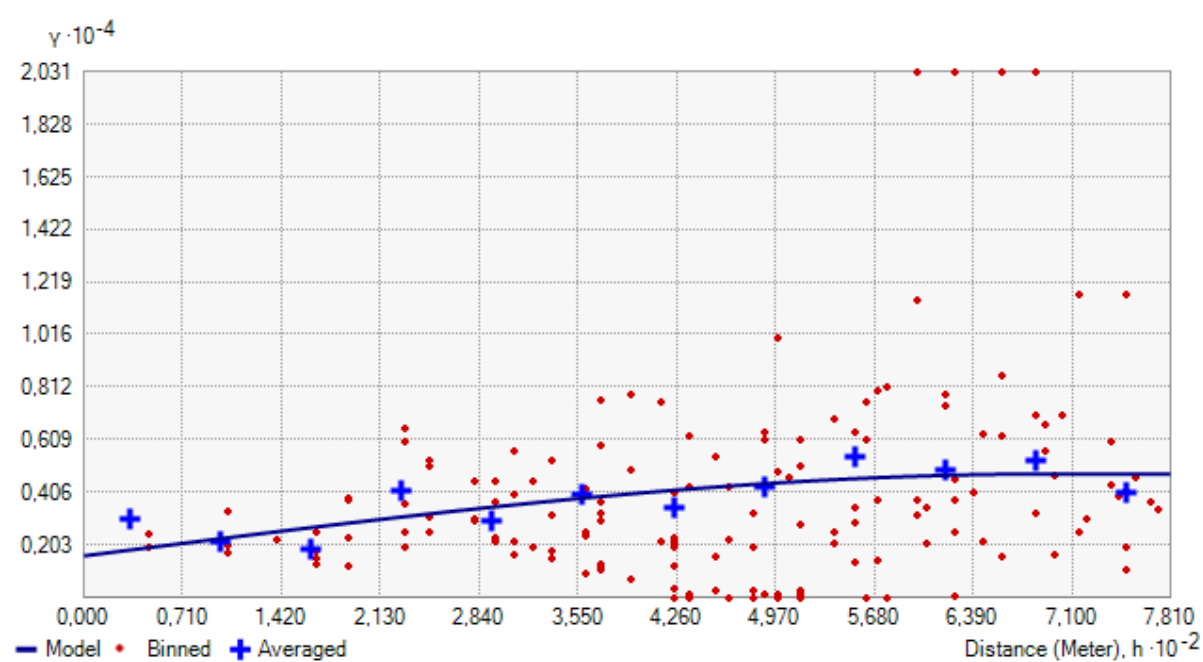
Cu 50 conc



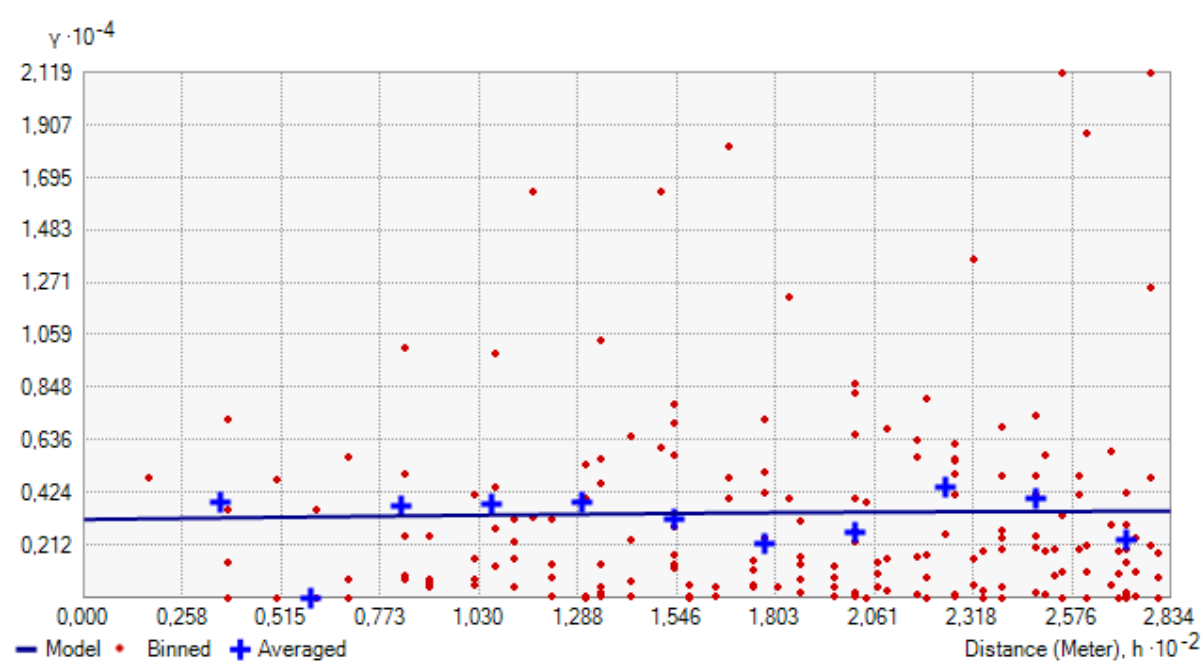
Cu 60 conc



Cu 70 conc

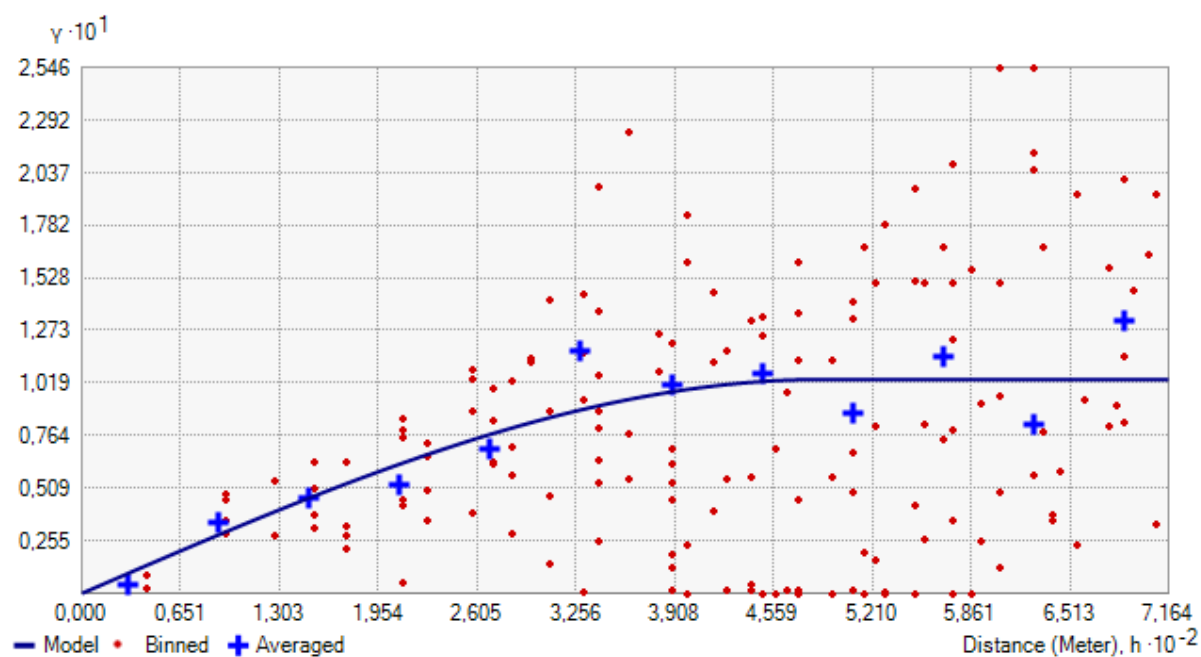


Cu 80 conc

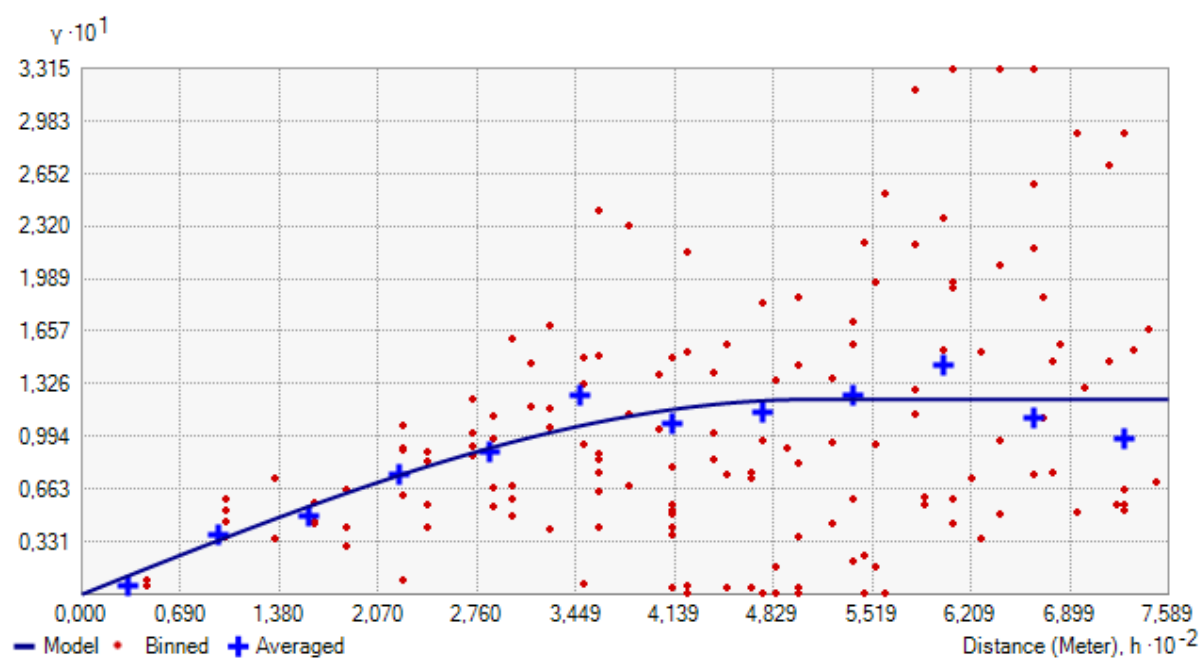


Copper clr values variograms:

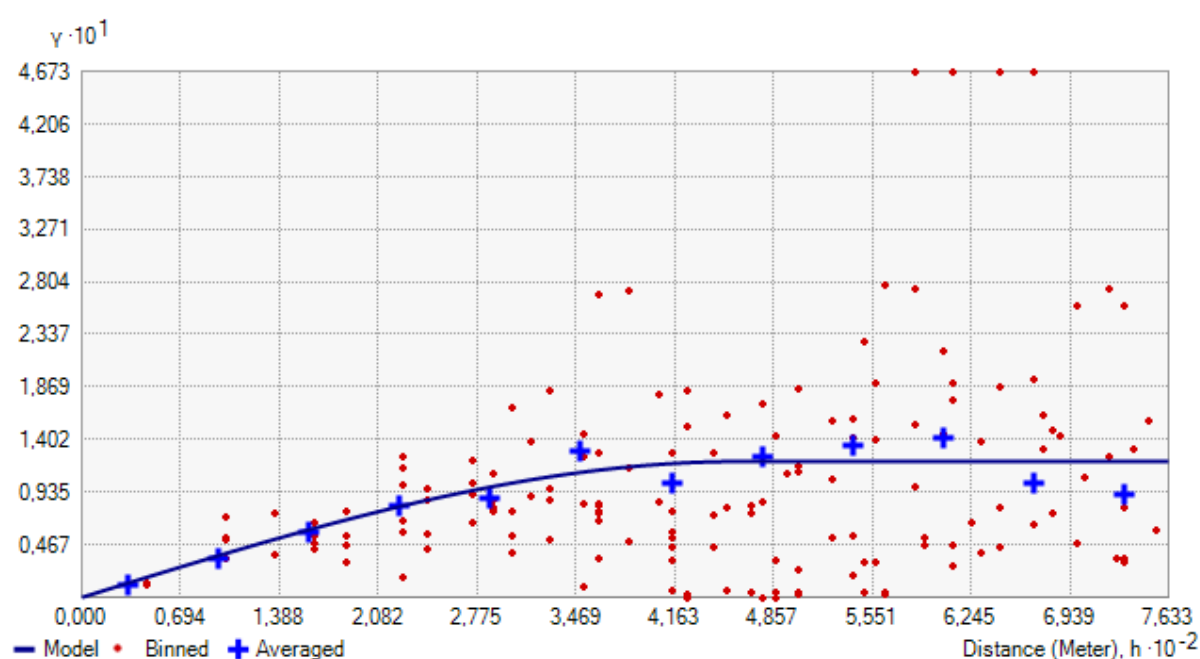
Cu 10 clr



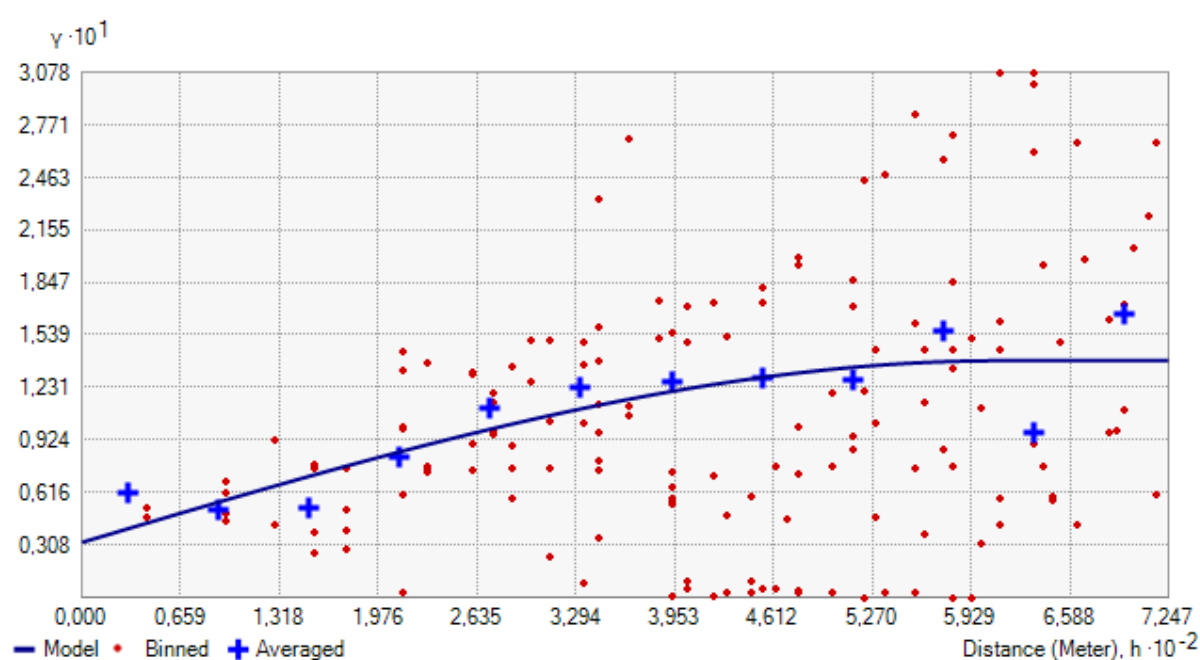
Cu 20 clr



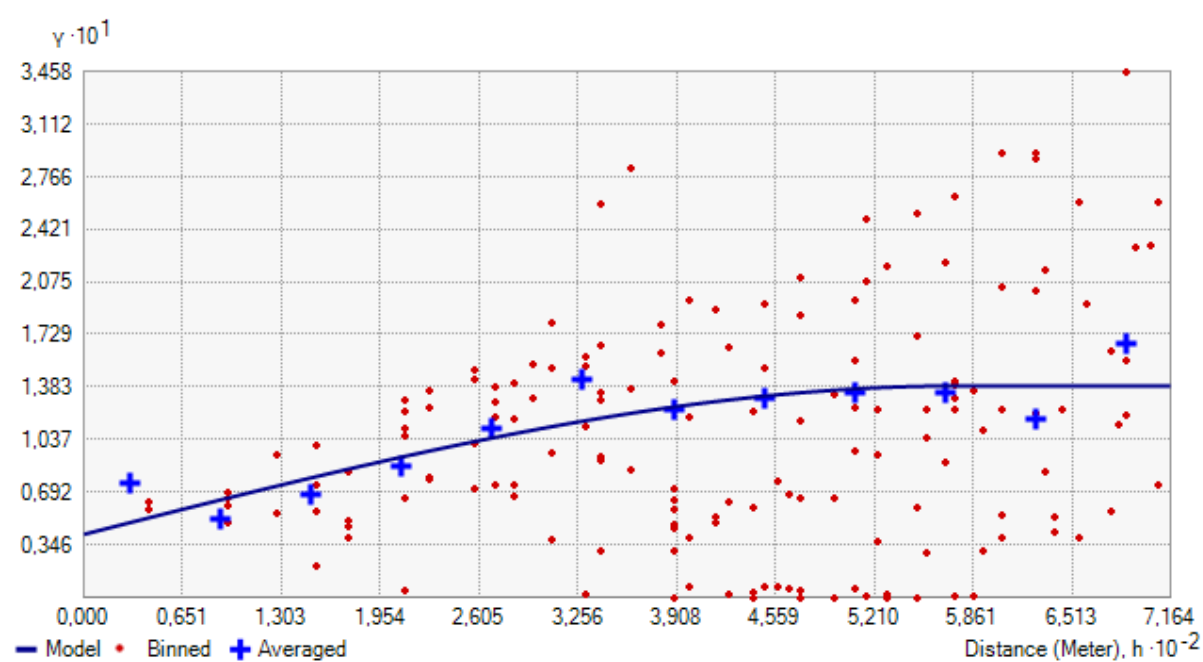
Cu 30 clr



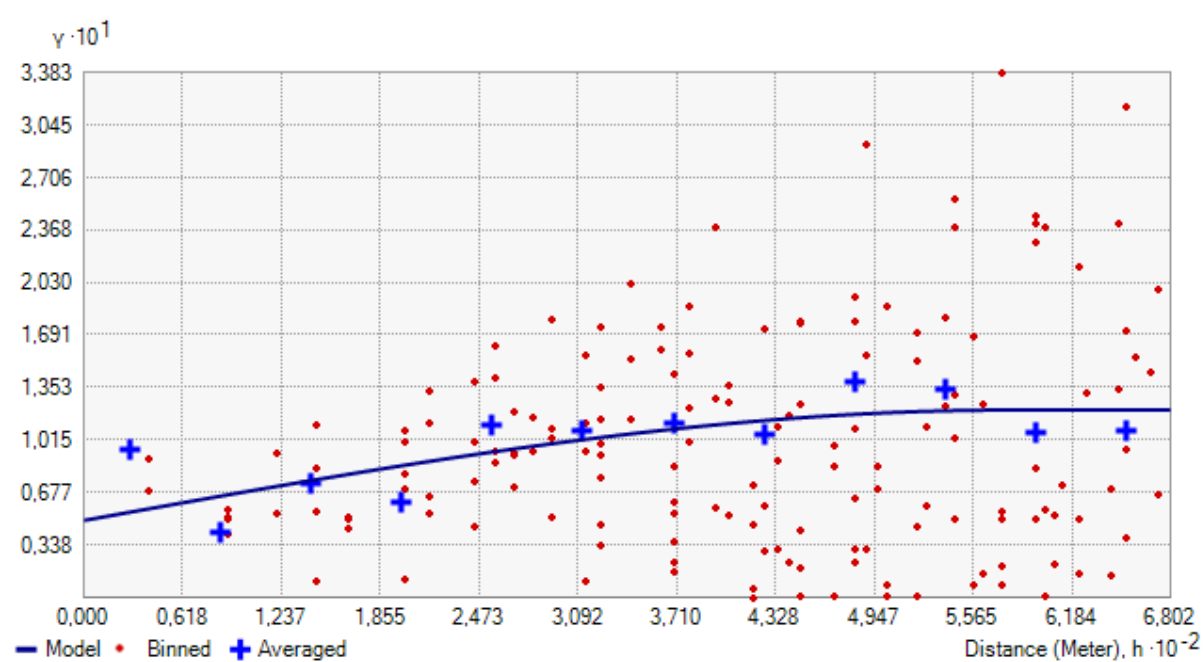
Cu 40 clr



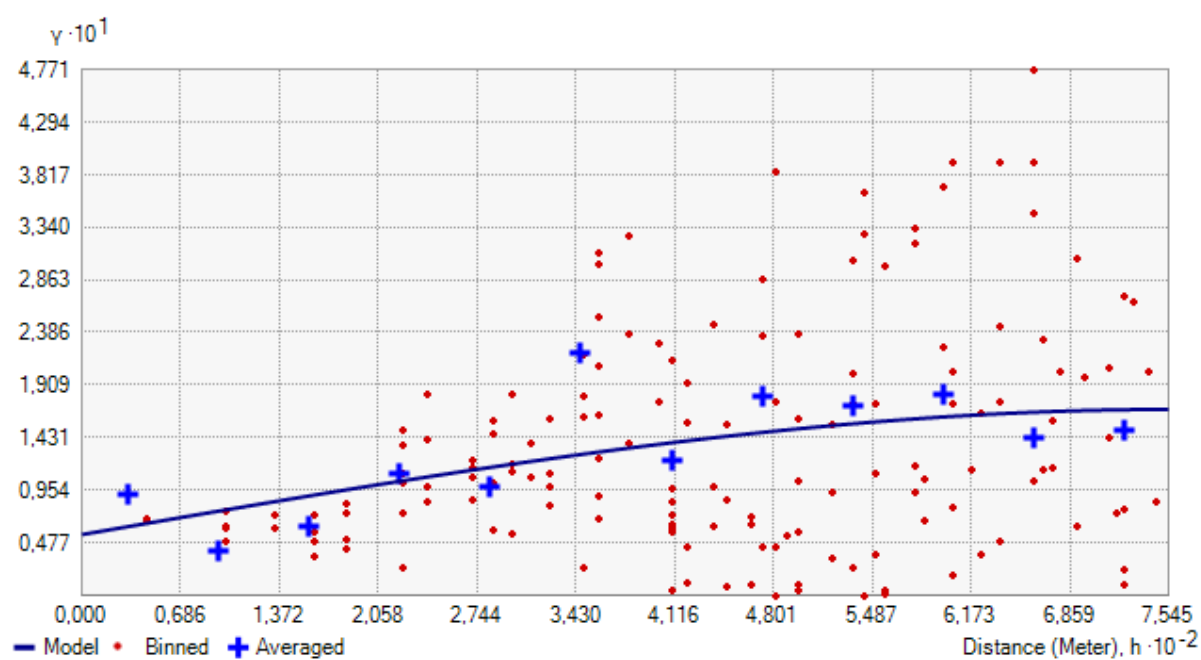
Cu 50 clr



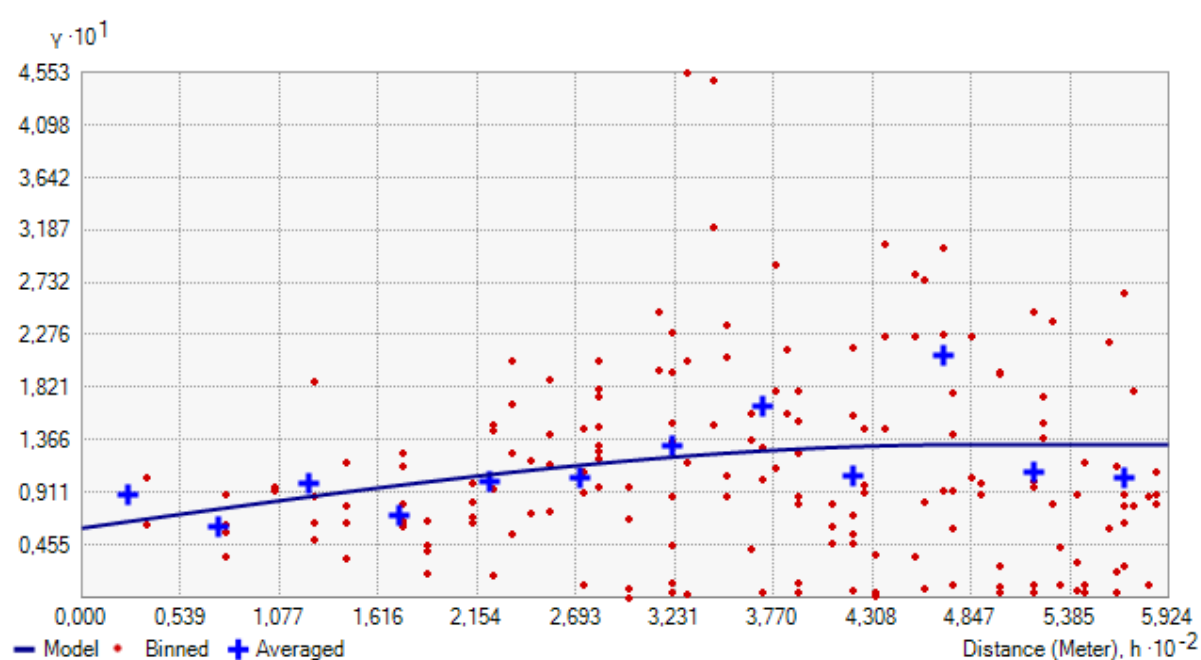
Cu 60 clr



Cu 70 clr



Cu 80 clr



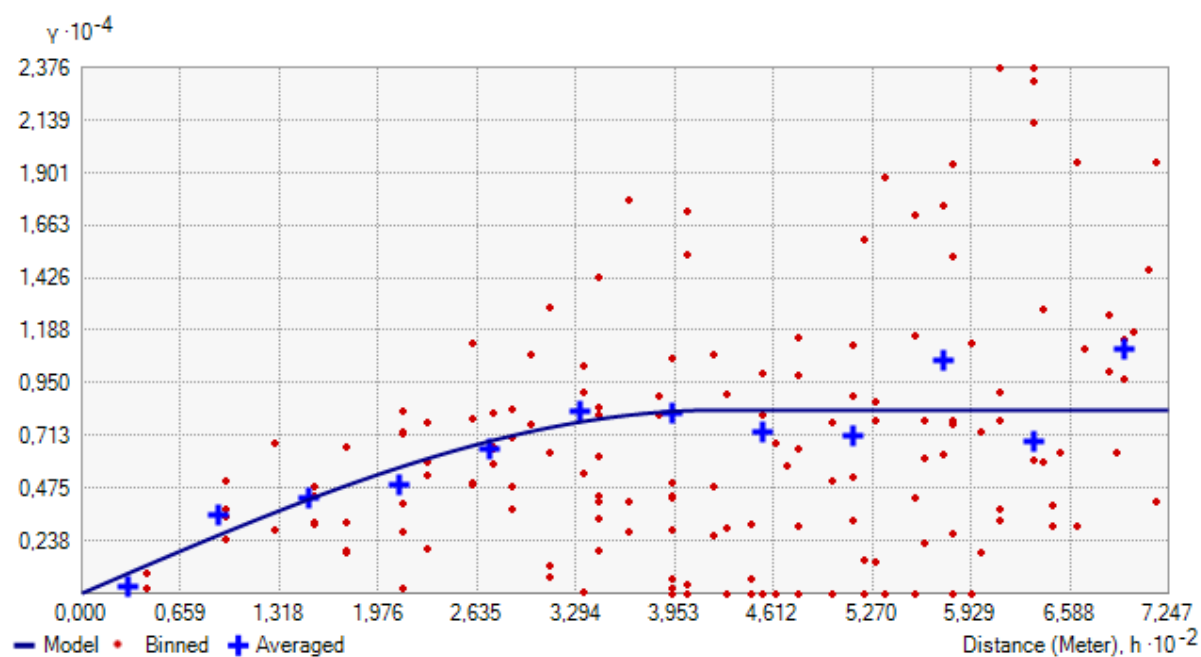
Lead

Kriging parameters:

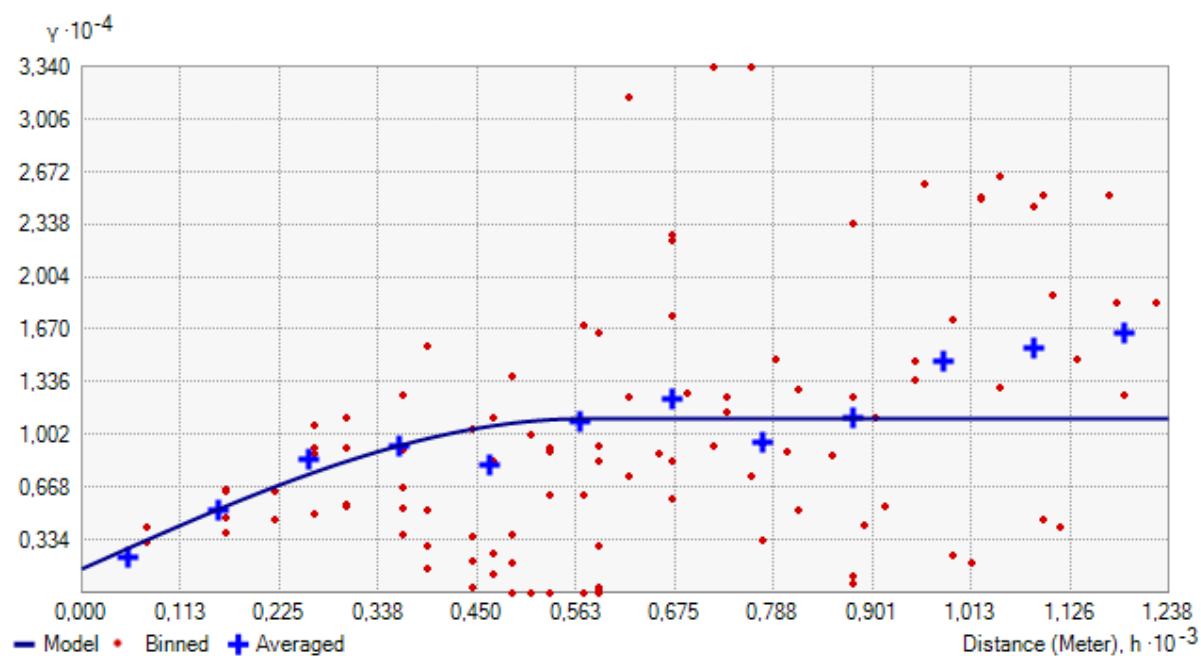
data	partial sill	nugget	range	lag size	lags number
Pb 10 conc	8279.892	0	424.088	60.390	12
Pb 20 conc	9539.735	1486.159	573.820	103.193	12
Pb 30 conc	11421.561	0	283.357	23.613	12
Pb 40 conc	9382.400	2198.576	288.953	49.363	12
Pb 50 conc	8315.480	4155.970	361.841	46.065	12
Pb 60 conc	5353.714	8564.261	623.033	58.004	12
Pb 70 conc	9995.930	6321.580	721.148	94.107	12
Pb 80 conc	1140.750	10775.542	1238.324	103.193	12
Pb 10 clr	0.145	0	506.785	50.513	12
Pb 20 clr	0.160	0	517.810	54.129	12
Pb 30 clr	0.176	0	473.367	50.513	12
Pb 40 clr	0.140	0.070	627.486	52.290	12
Pb 50 clr	0.148	0.079	613.192	51.099	12
Pb 60 clr	0.128	0.110	603.143	52.896	12
Pb 70 clr	0.180	0.100	646.494	56.357	12
Pb 80 clr	0.102	0.135	451.534	52.896	12

Lead concentrations variograms:

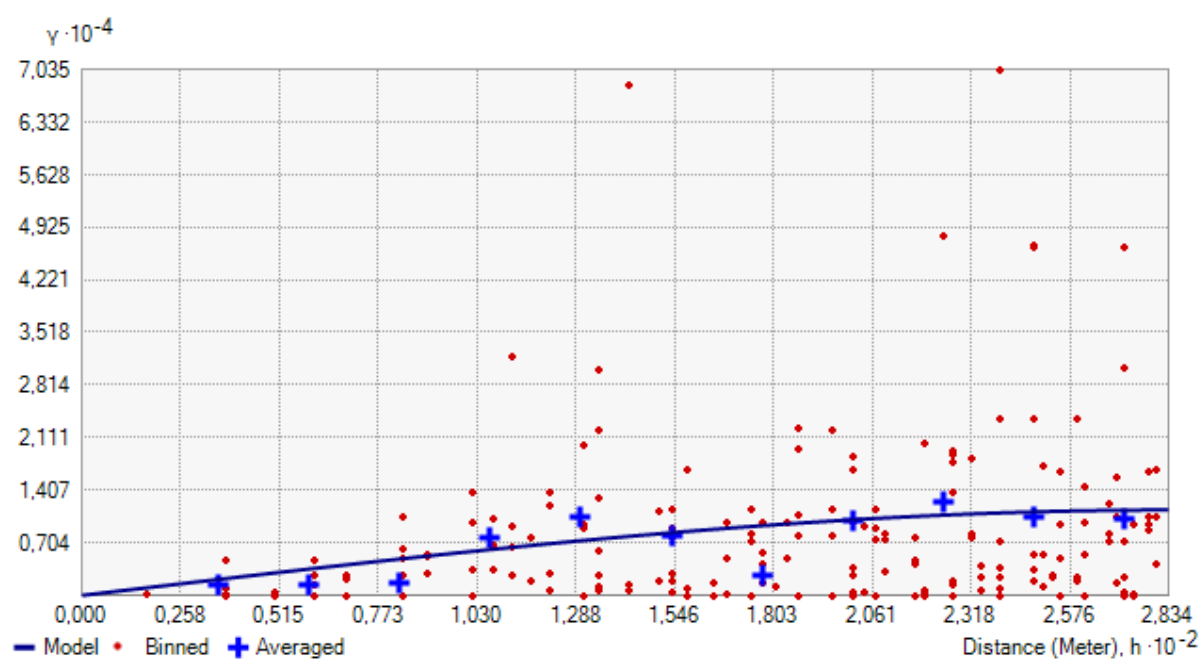
Pb 10 conc



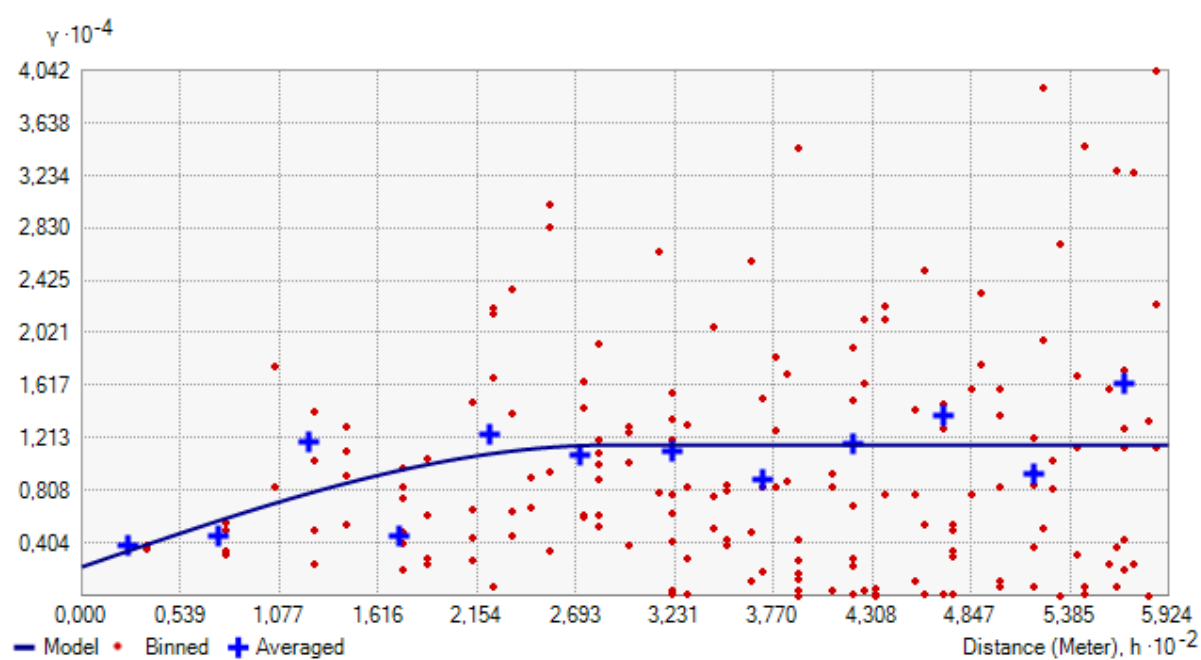
Pb 20 conc



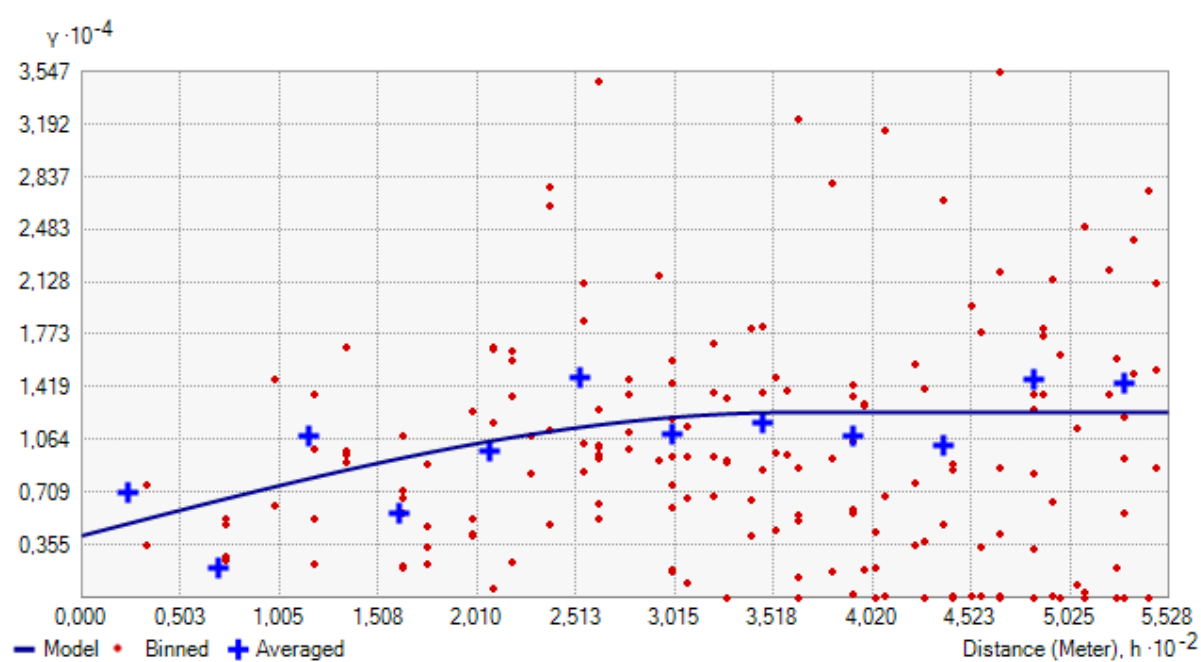
Pb 30 conc



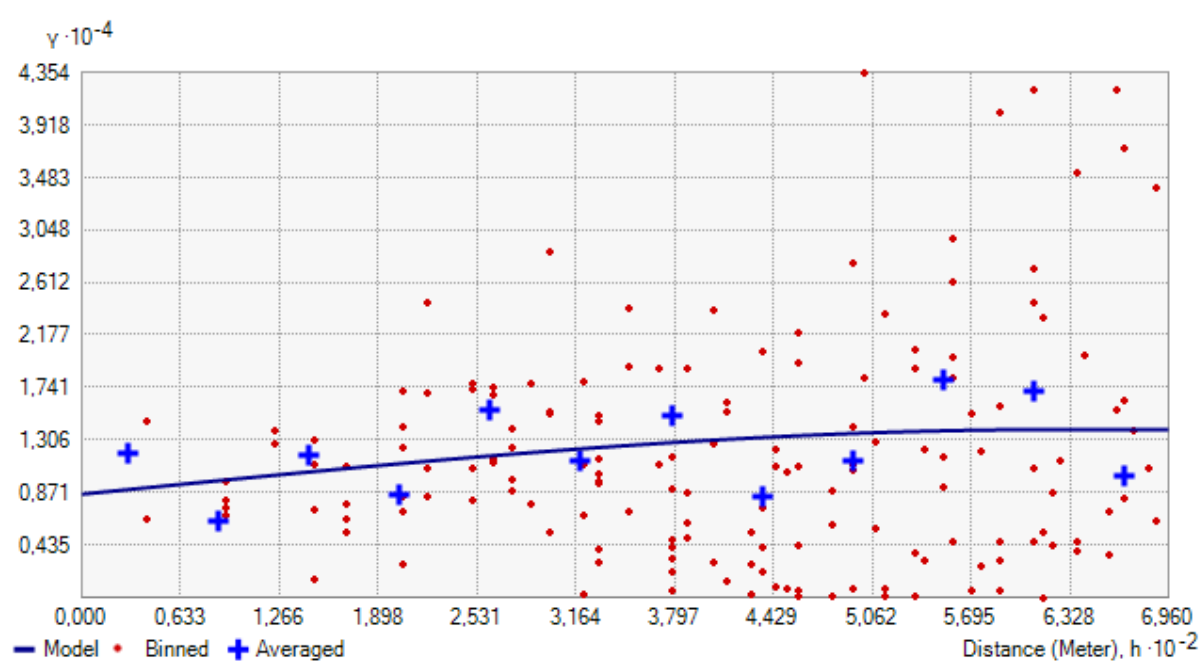
Pb 40 conc



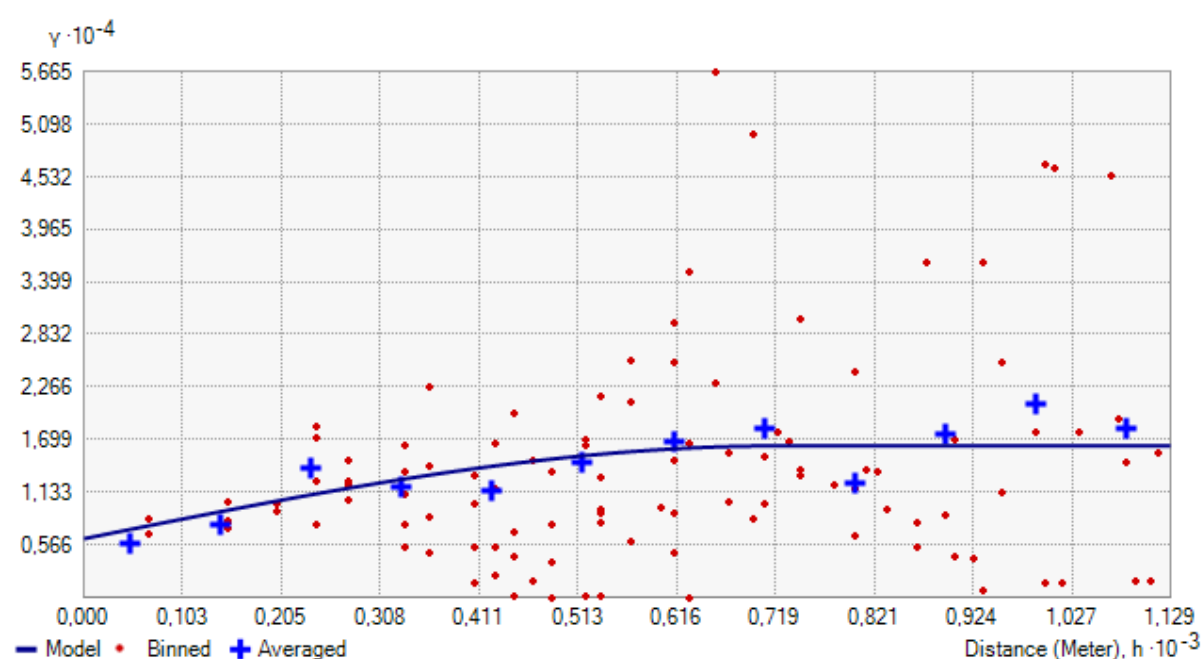
Pb 50 conc



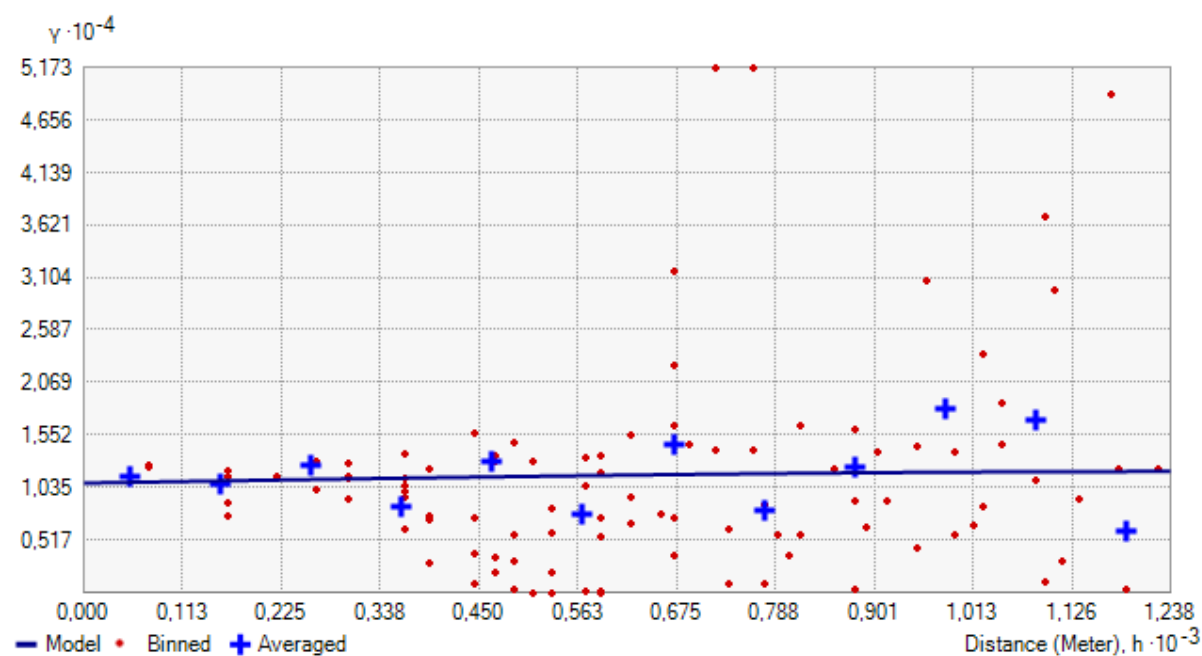
Pb 60 conc



Pb 70 conc

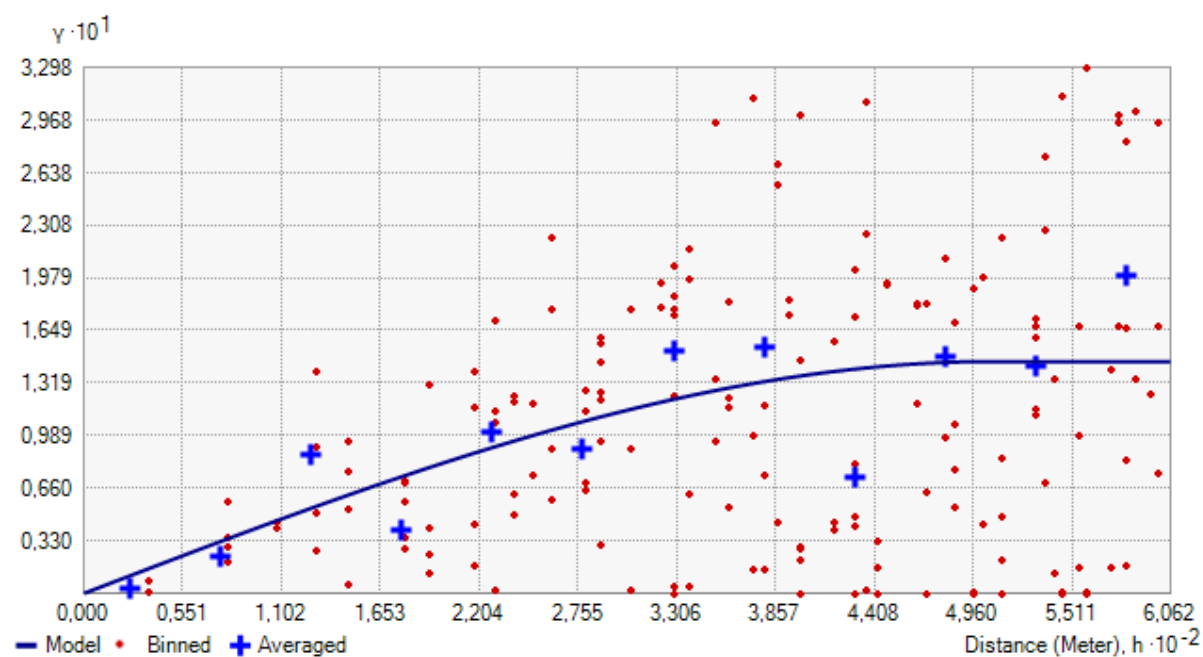


Pb 80 conc

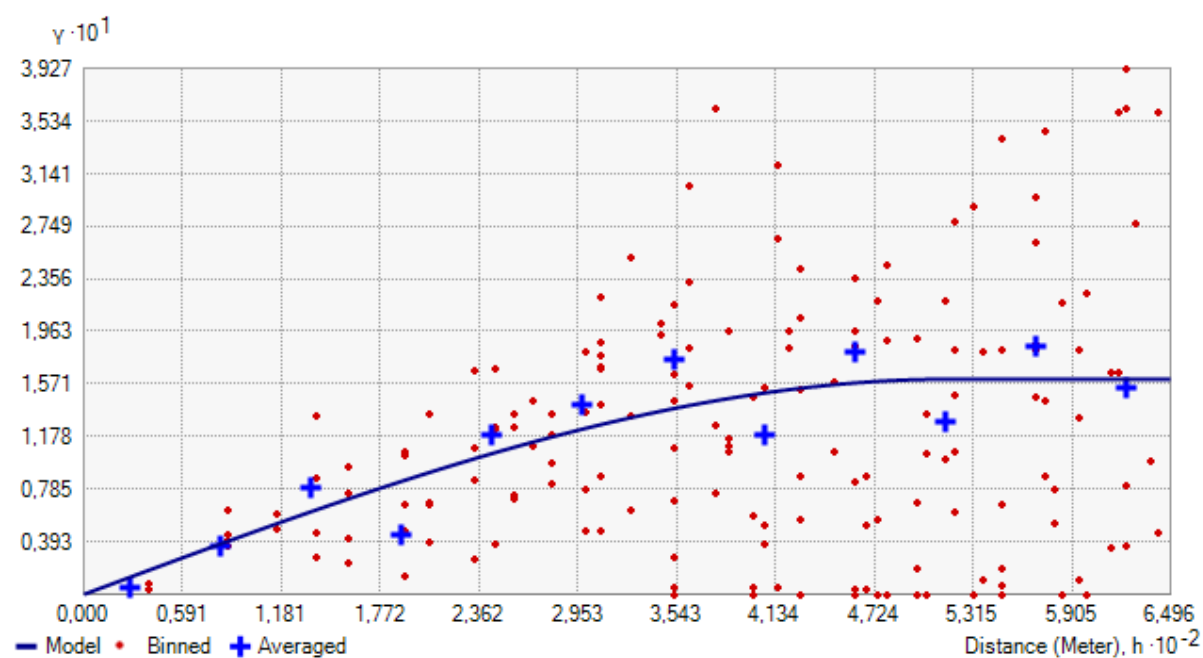


Lead clr values variograms:

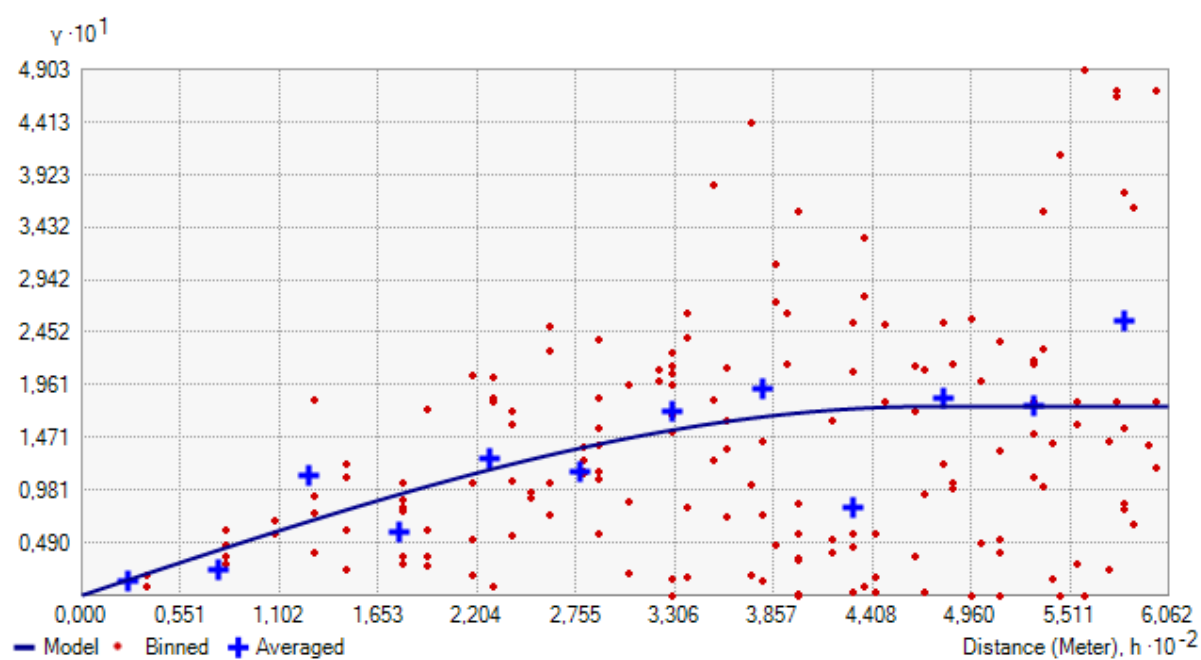
Pb 10 clr



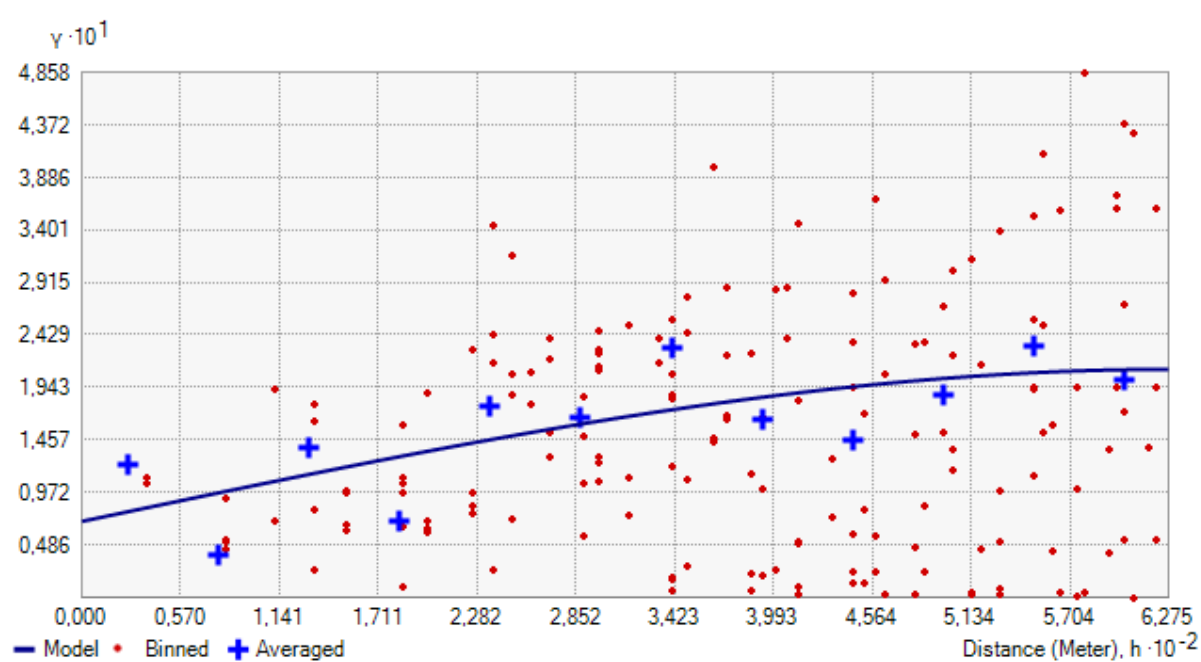
Pb 20 clr



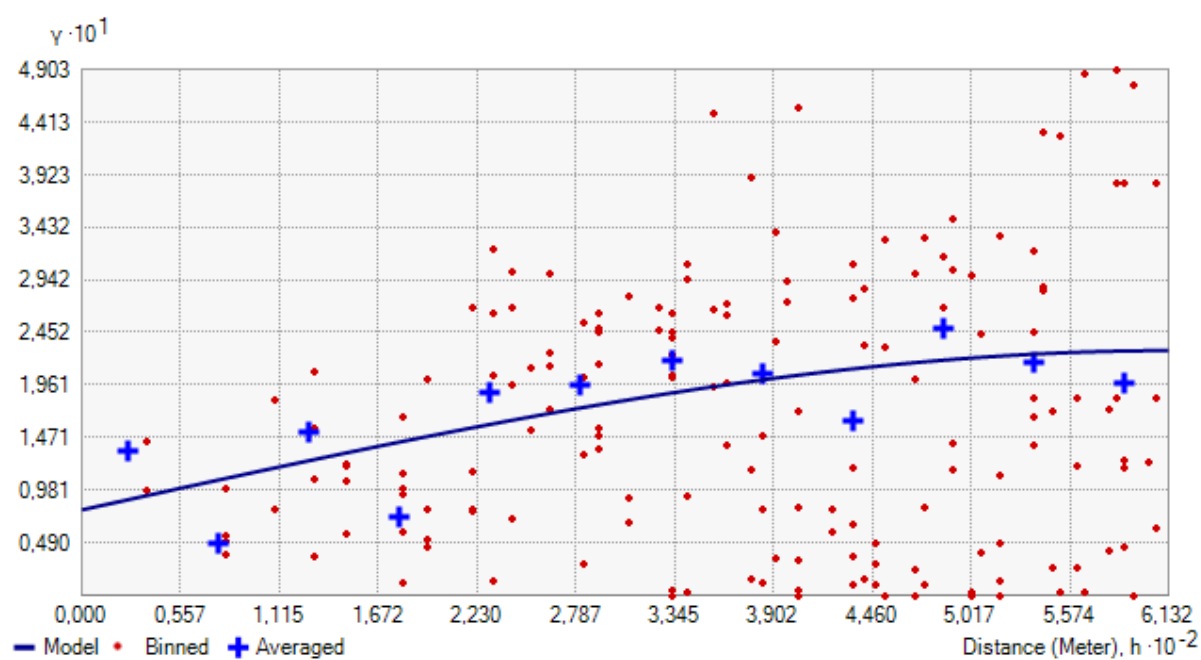
Pb 30 clr



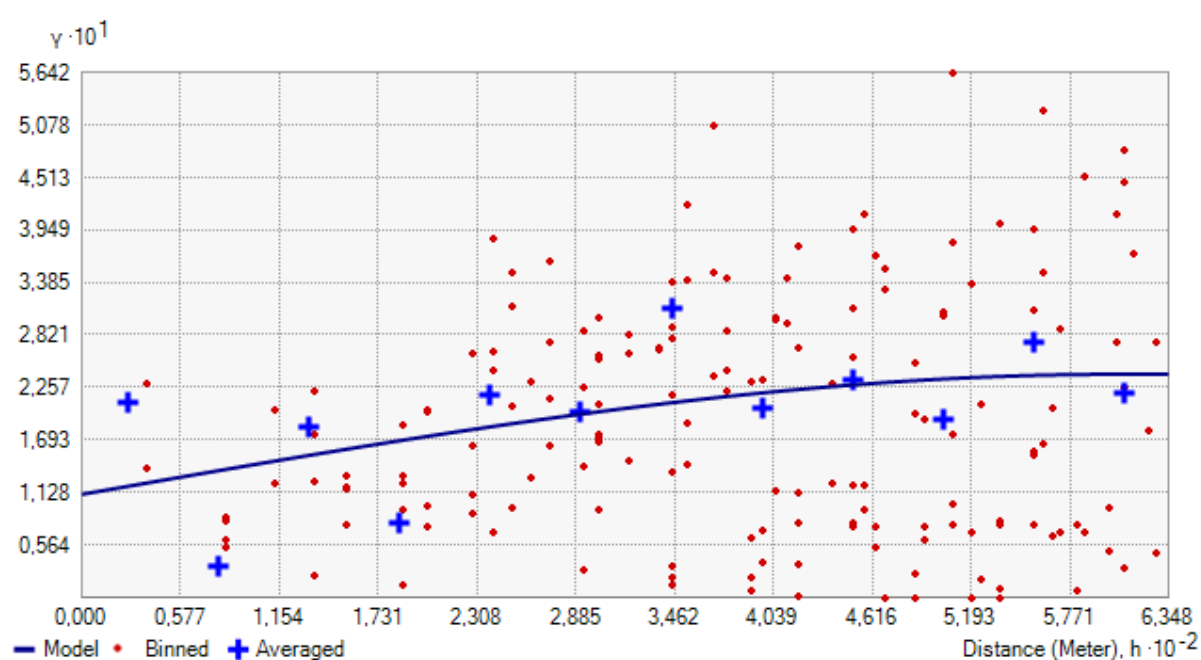
Pb 40 clr



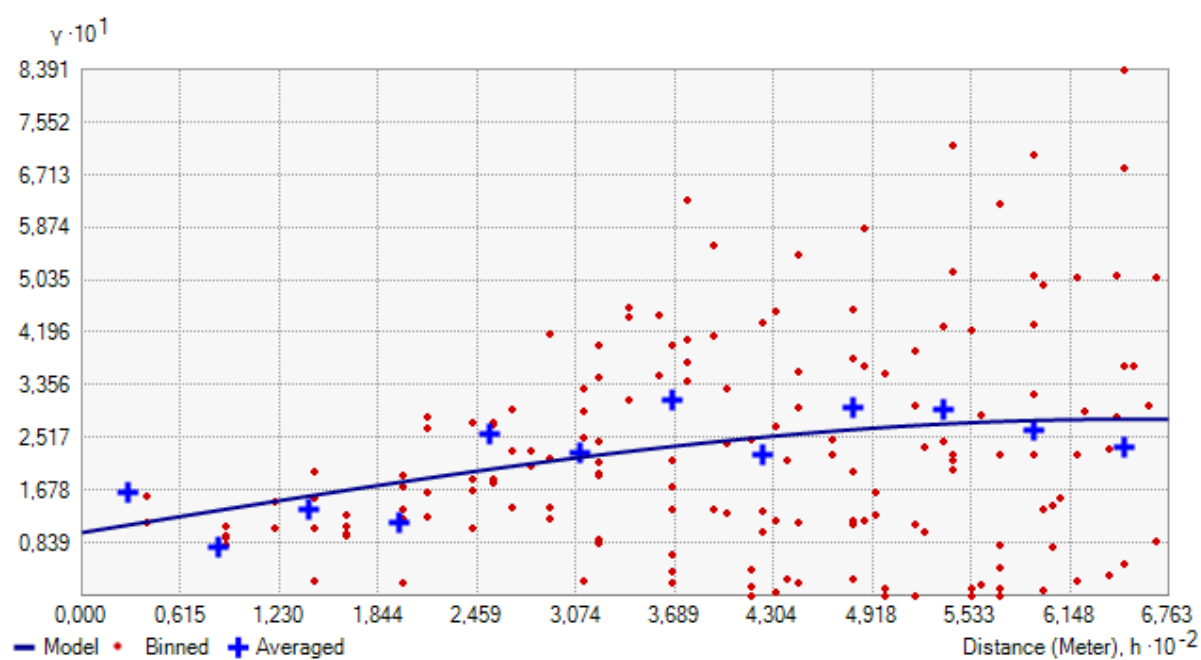
Pb 50 clr



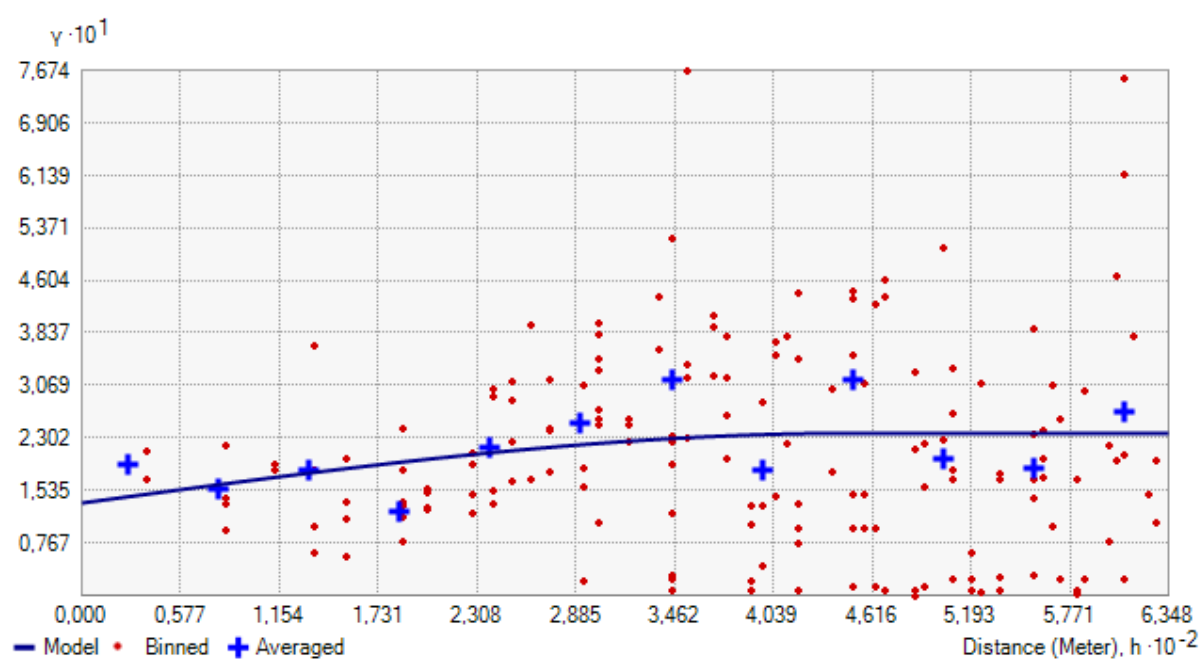
Pb 60 clr



Pb 70 clr



Pb 80 clr



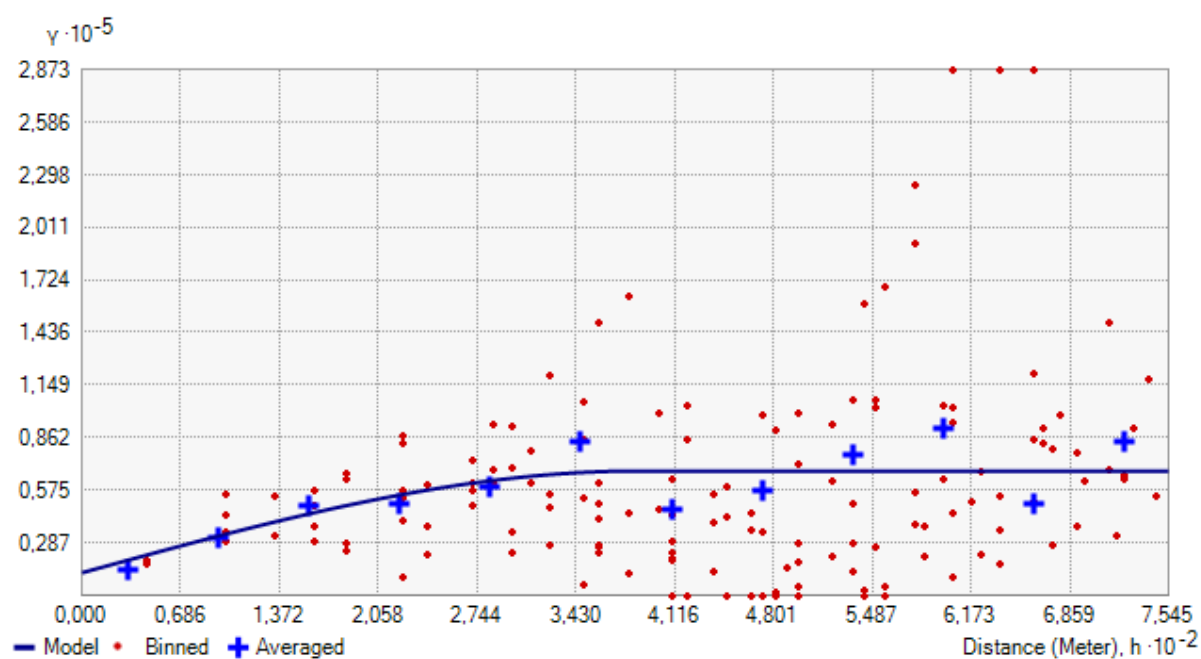
Zinc

Kriging parameters:

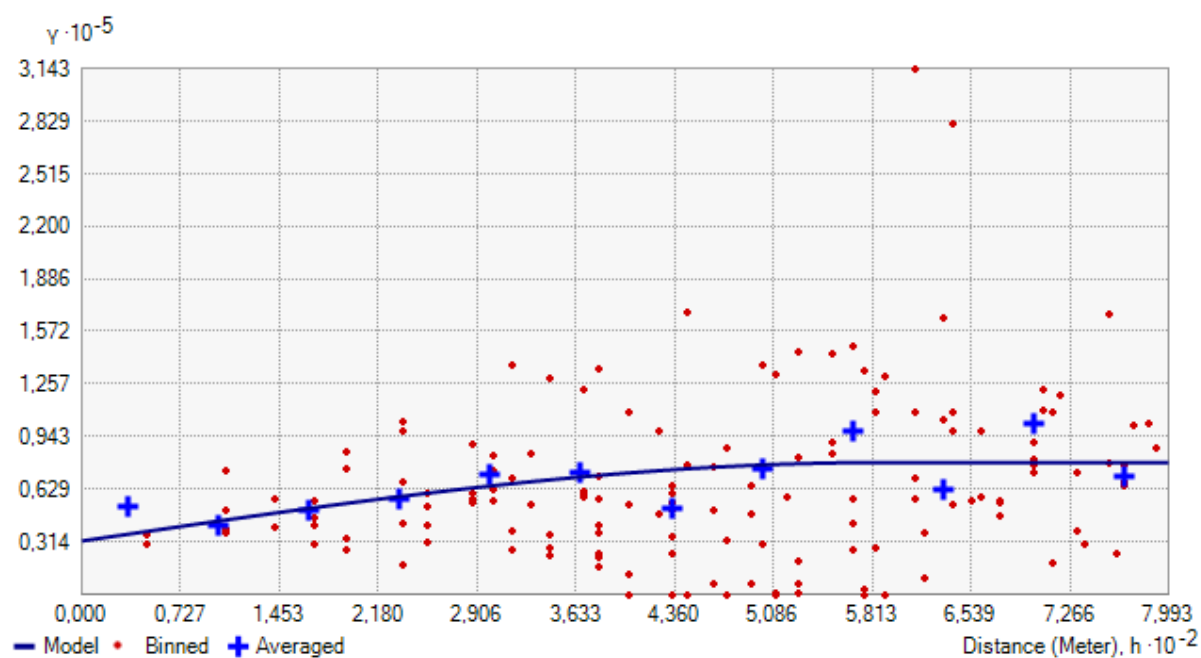
data	partial sill	nugget	range	lag size	lags number
Zn 10 conc	55589.181	12347.978	385.772	62.876	12
Zn 20 conc	46868.339	31916.868	586.250	66.604	12
Zn 30 conc	27183.557	71727.457	738.208	86.814	12
Zn 40 conc	9580.322	86425.530	803.384	84.349	12
Zn 50 conc	21036.203	93699.606	1238.324	103.193	12
Zn 60 conc	0	101256.226	1238.324	103.193	12
Zn 70 conc	0	158737.337	1238.324	103.193	12
Zn 80 conc	46980.977	34558.161	213.437	27.114	12
Zn 10 clr	0.133	0	391.906	53.509	12
Zn 20 clr	0.134	0.014	465.812	59.015	12
Zn 30 clr	0.127	0.042	553.912	52.896	12
Zn 40 clr	0.087	0.082	597.238	60.044	12
Zn 50 clr	0.093	0.090	585.647	59.365	12
Zn 60 clr	0.083	0.098	557.596	55.391	12
Zn 70 clr	0.138	0.117	615.200	60.044	12
Zn 80 clr	0.136	0.077	469.004	48.238	12

Zinc concentrations variograms:

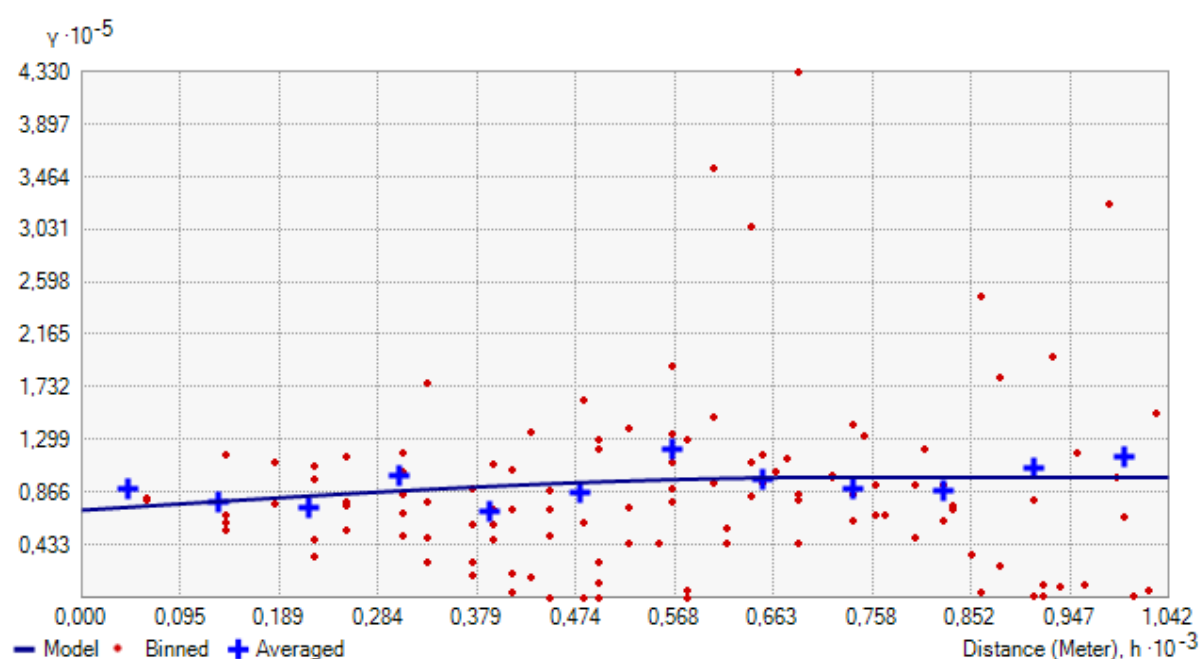
Zn 10 conc



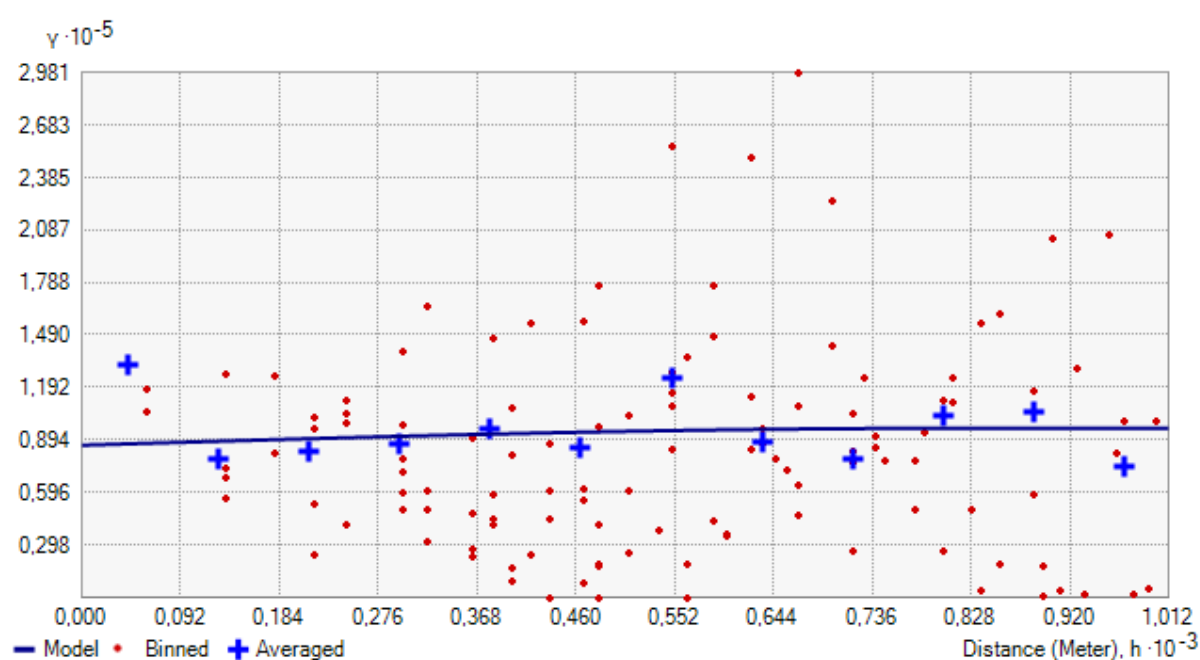
Zn 20 conc



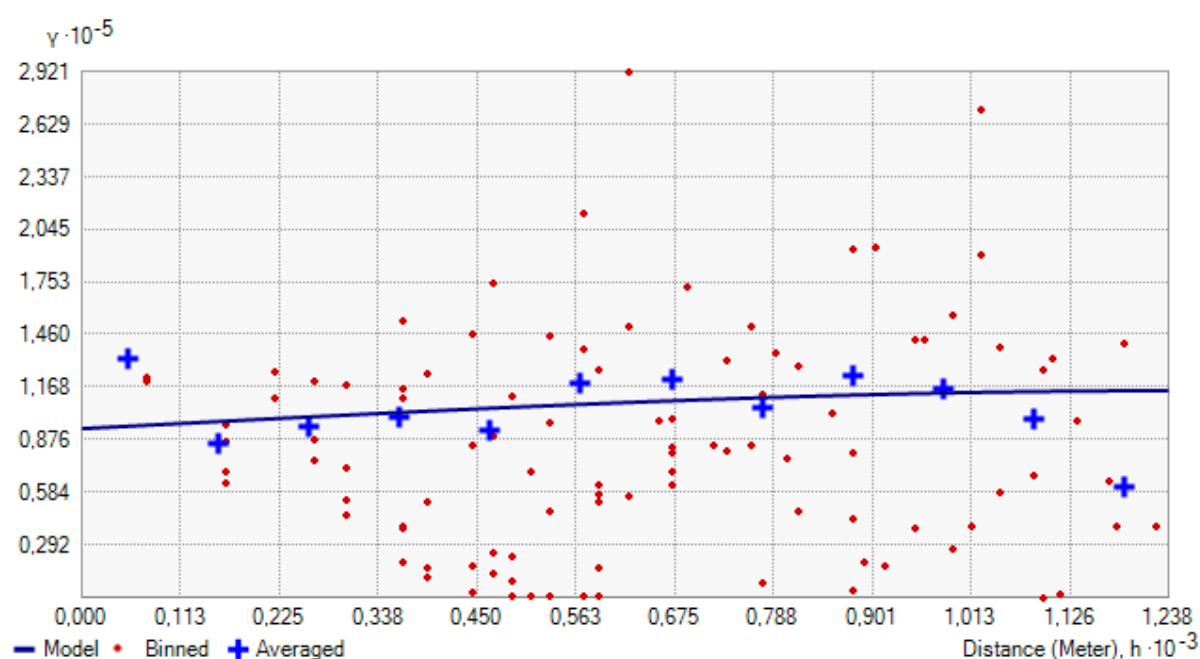
Zn 30 conc



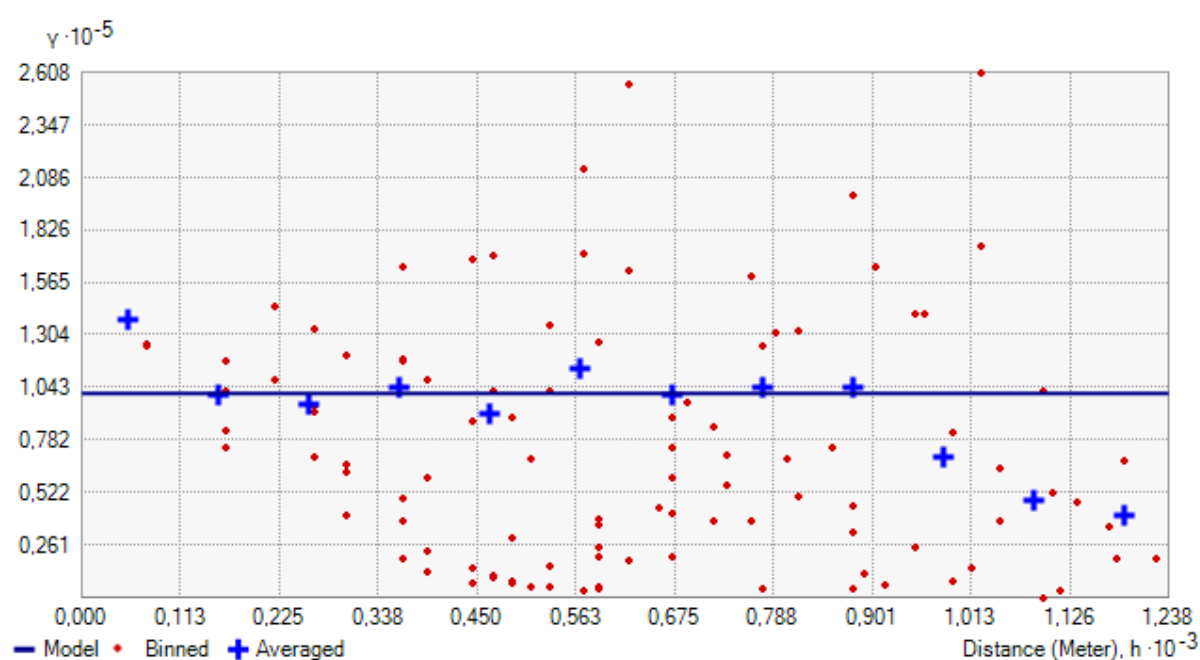
Zn 40 conc



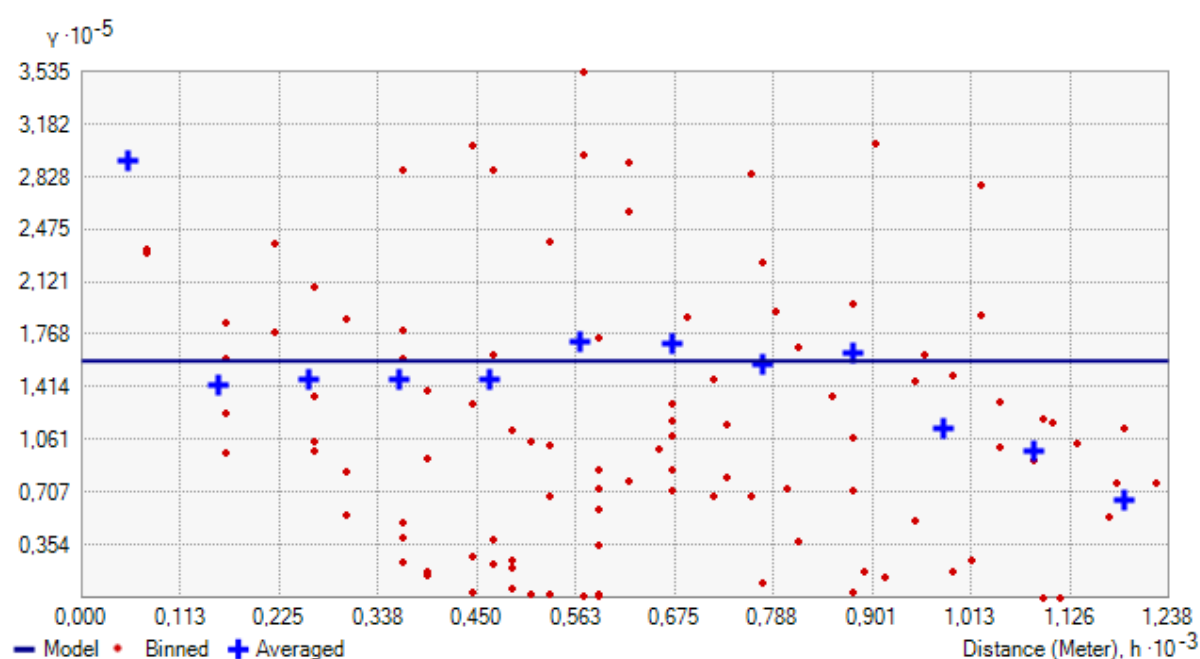
Zn 50 conc



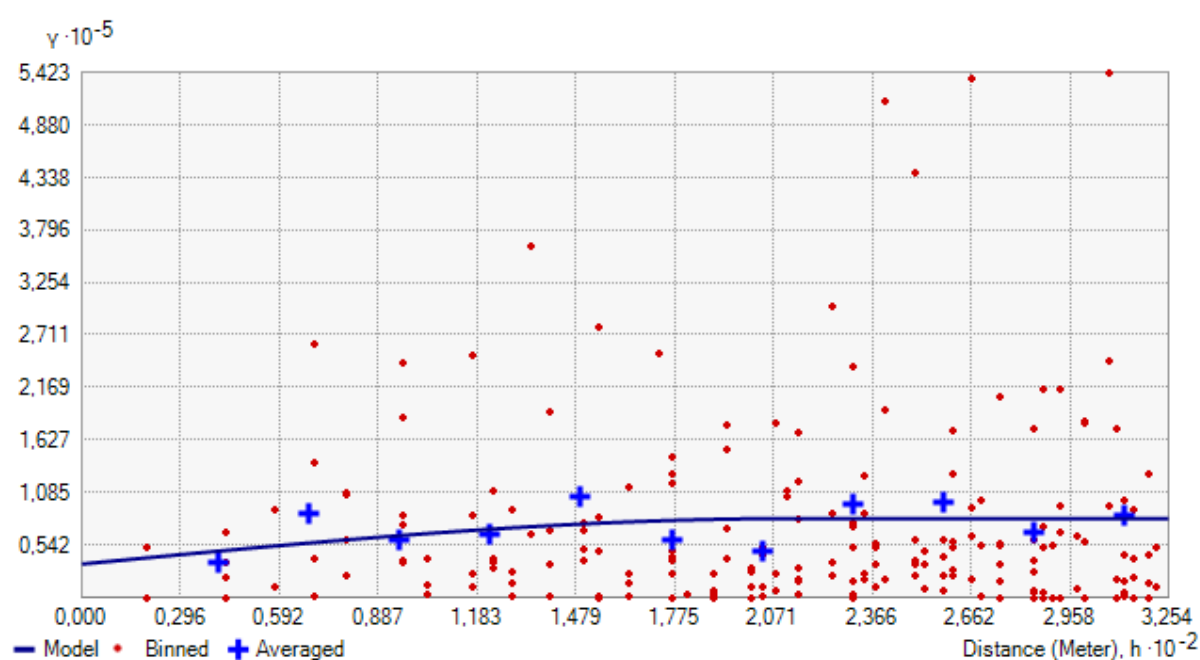
Zn 60 conc



Zn 70 conc

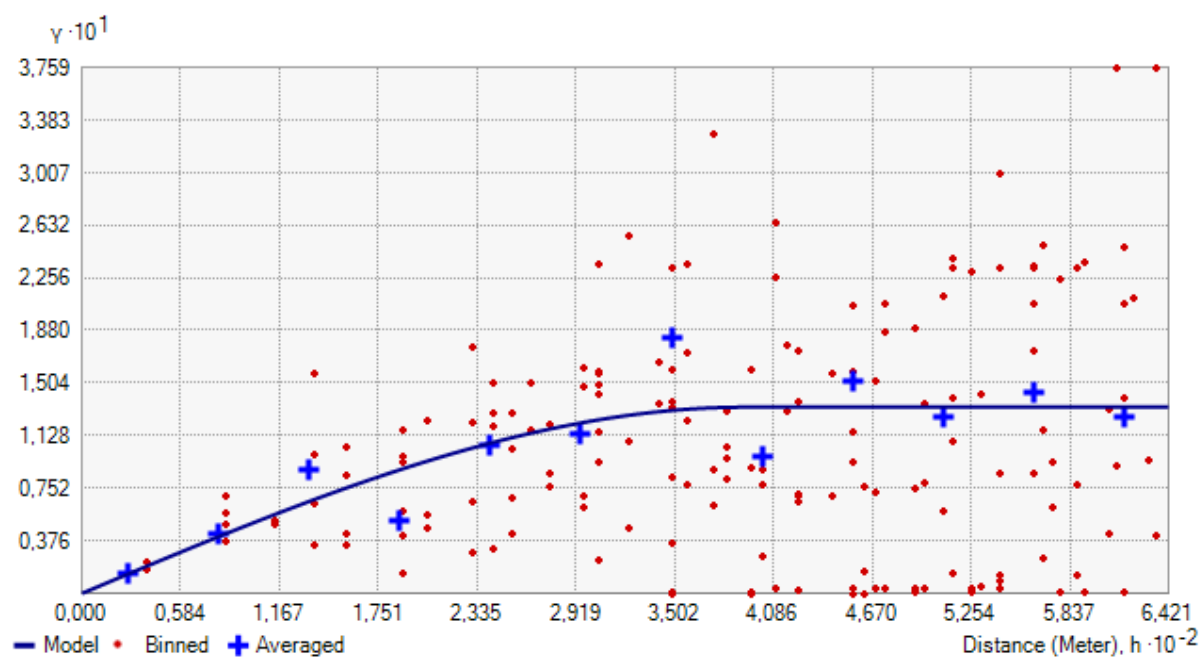


Zn 80 conc

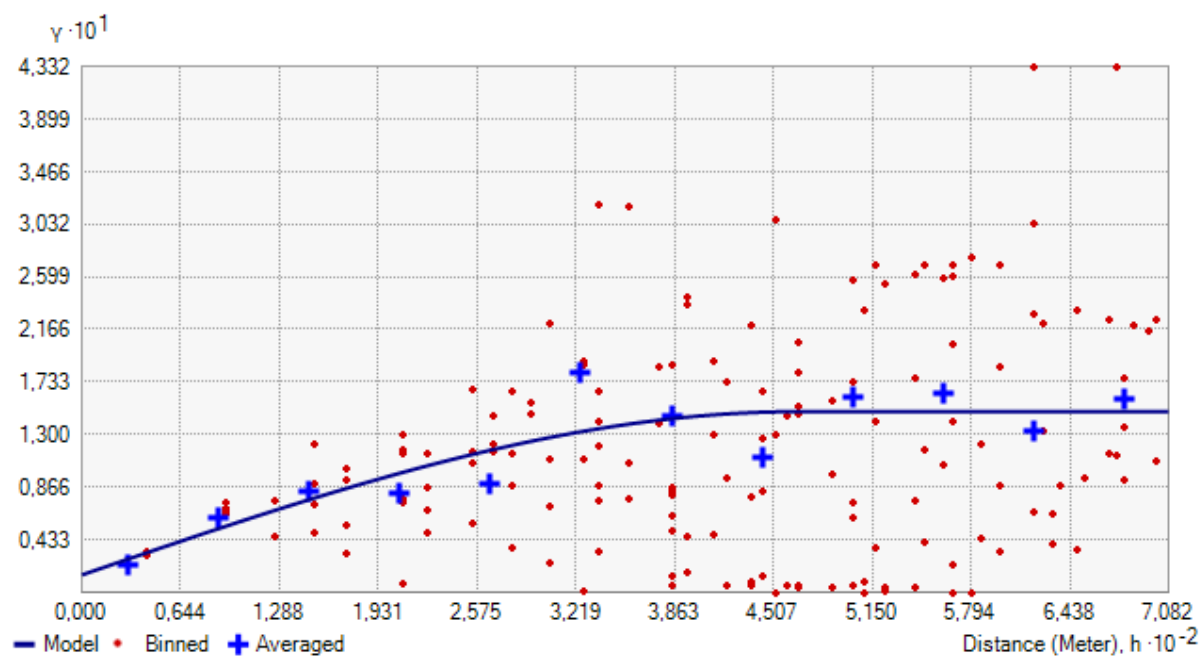


Zinc clr values variograms:

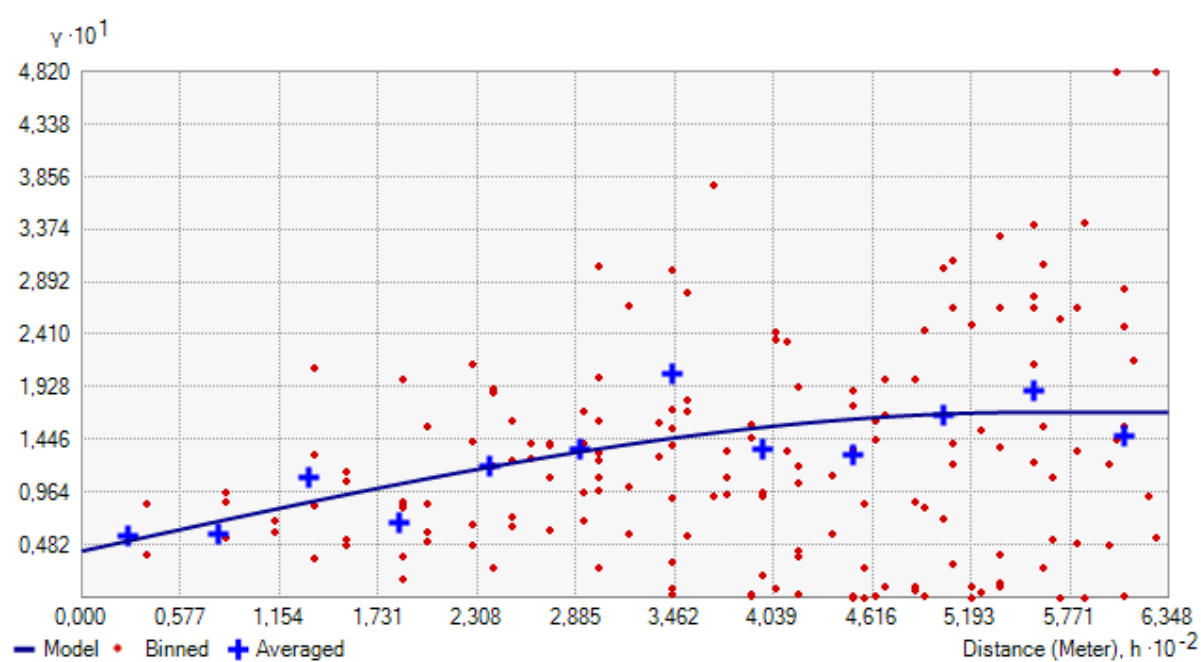
Zn 10 clr



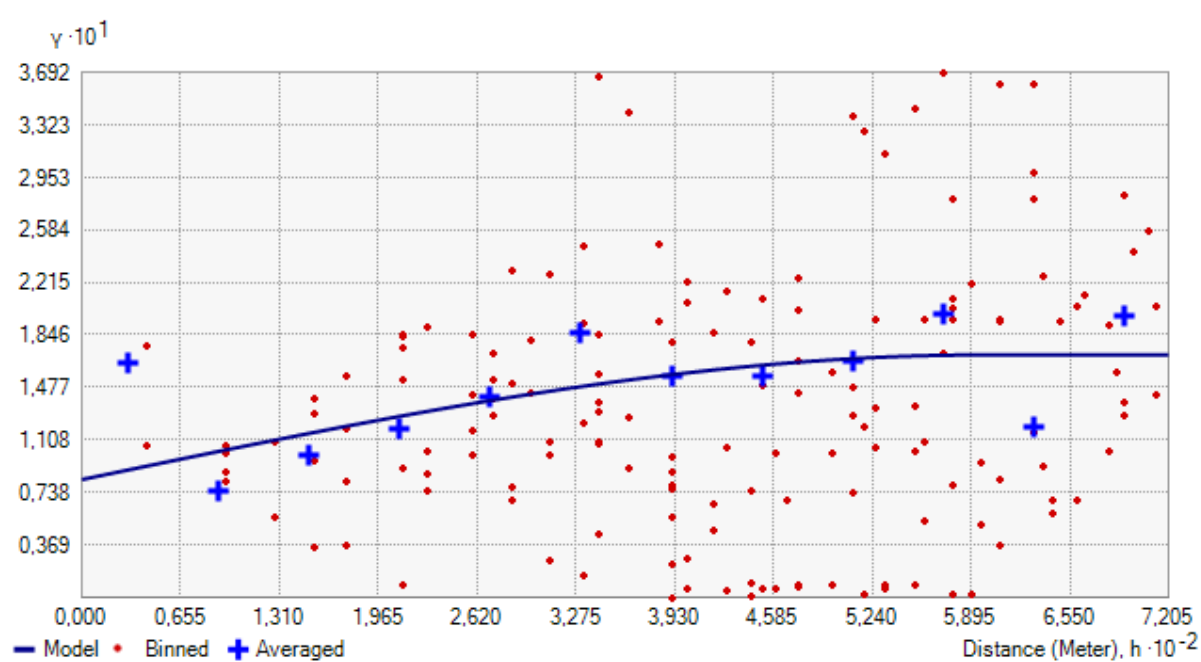
Zn 20 clr



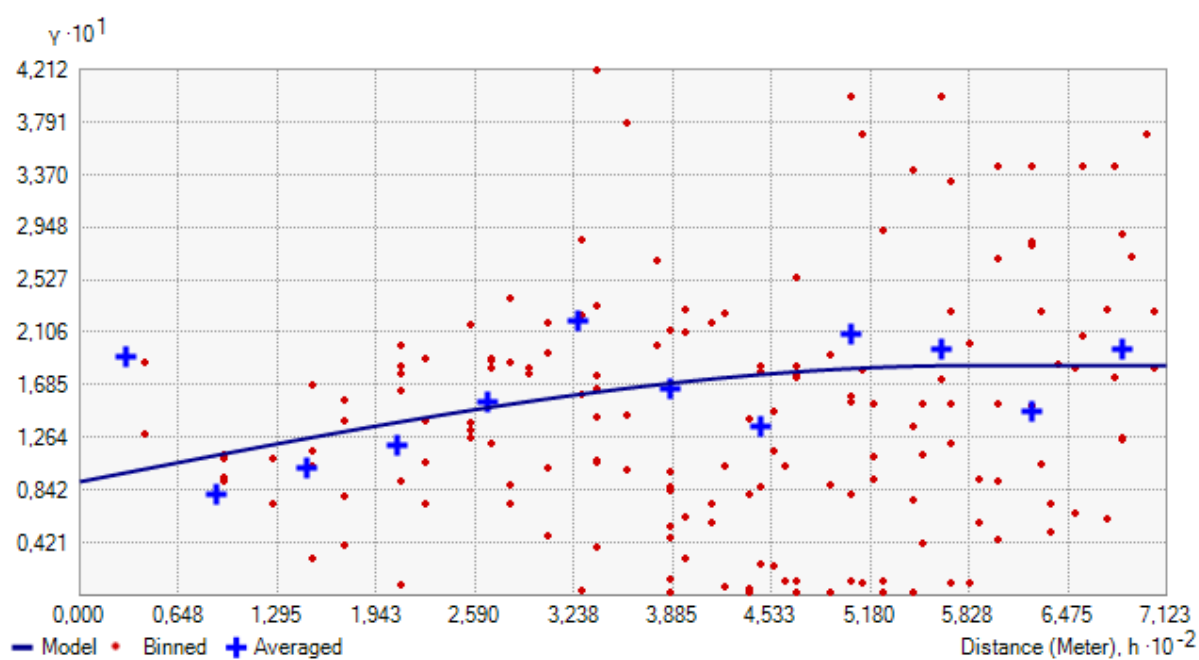
Zn 30 clr



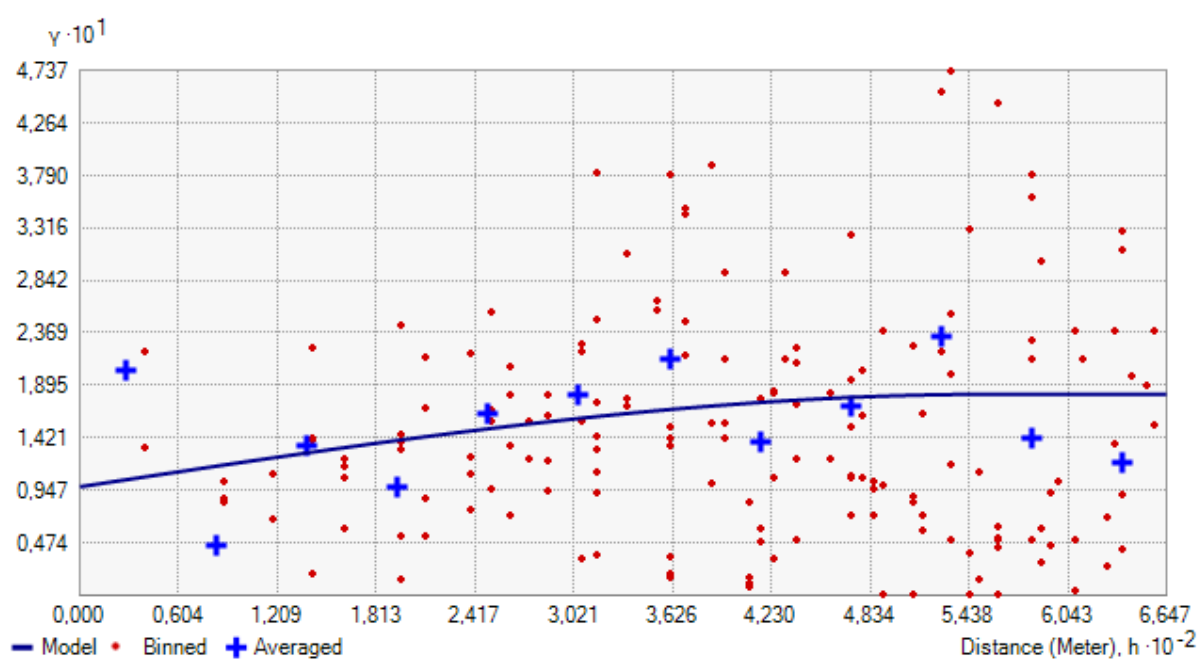
Zn 40 clr



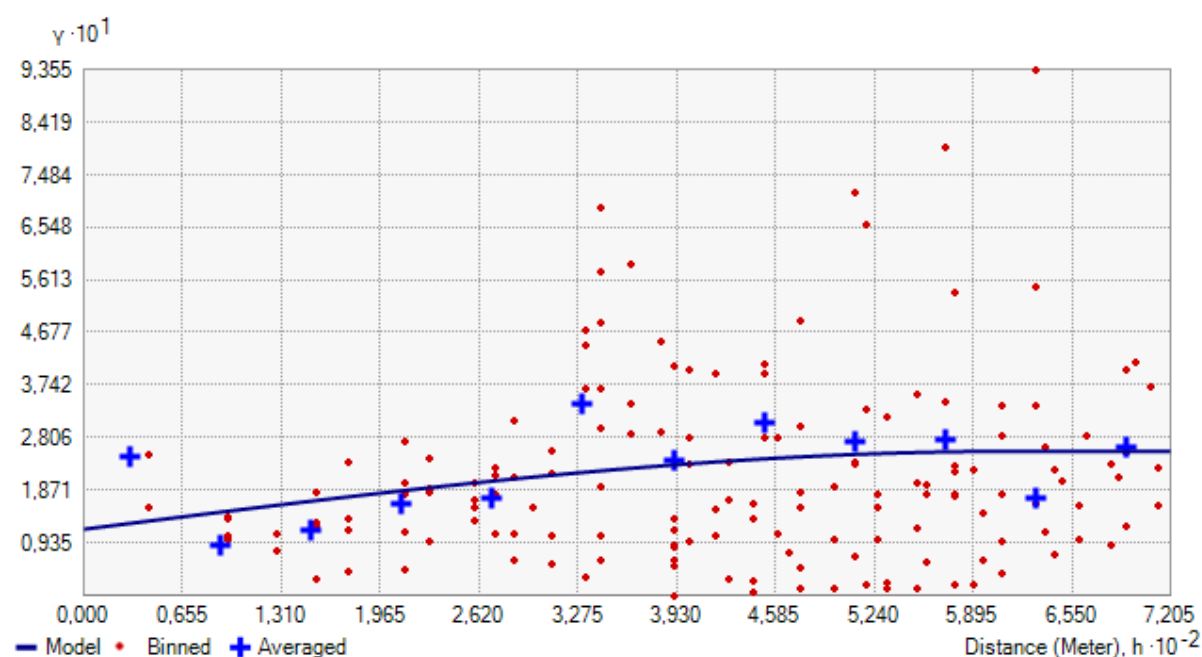
Zn 50 clr



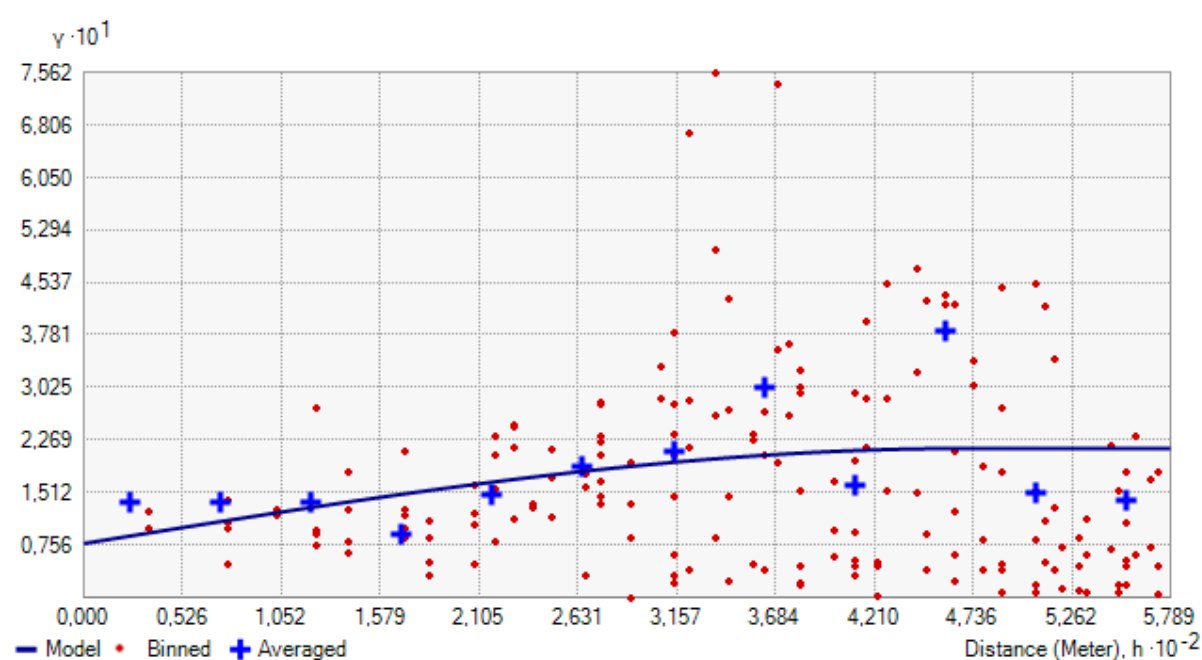
Zn 60 clr



Zn 70 clr



Zn 80 clr



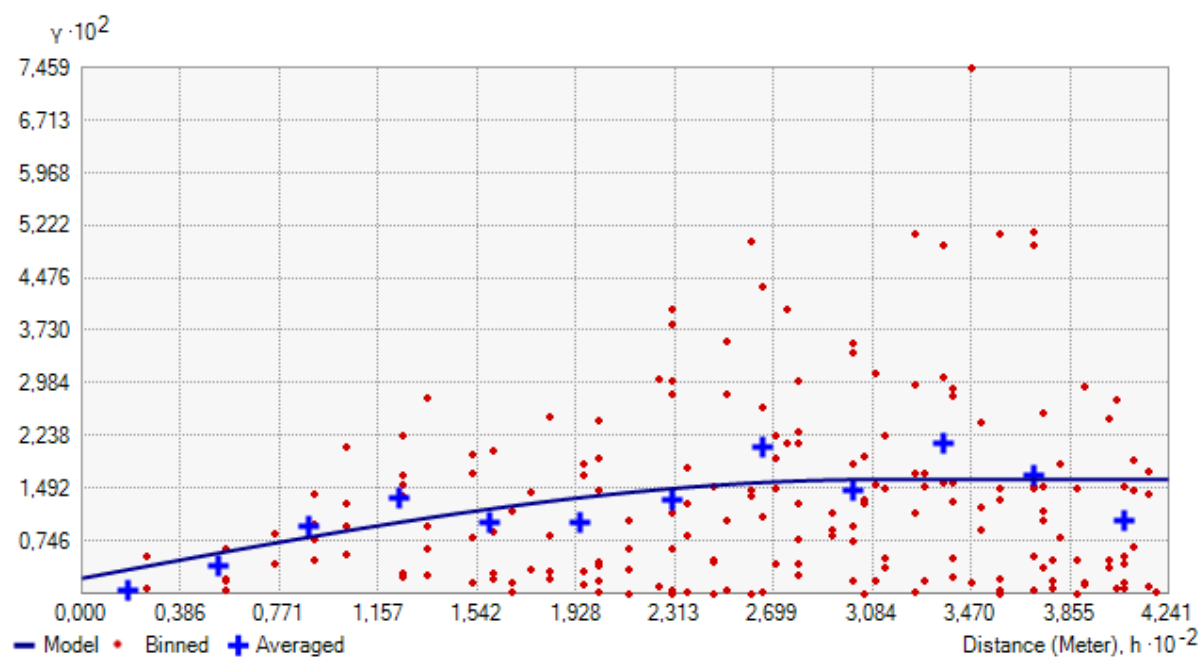
Magnetic susceptibility

Kriging parameters:

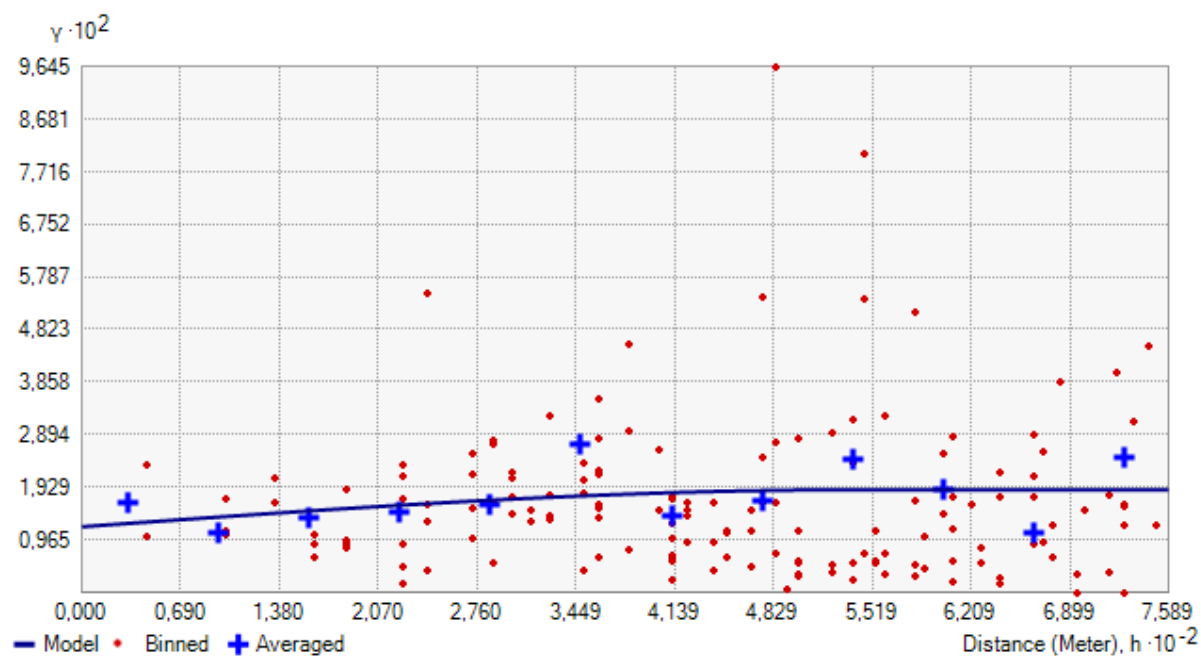
data	partial sill	nugget	range	lag size	lags number
MS 10	0.014	0.002	310.706	35.341	12
MS 20	0.006	0.012	541.797	63.239	12
MS 30	0.016	0.004	459.422	50.223	12
MS 40	0.010	0.010	594.883	55.391	12
MS 50	0.013	0.005	366.547	102.600	12
MS 60	0.008	0.007	367.193	36.374	12
MS 70	0.011	0.005	487.497	52.896	12
MS 80	0.002	0.008	445.956	52.592	12

Magnetic susceptibility values variograms:

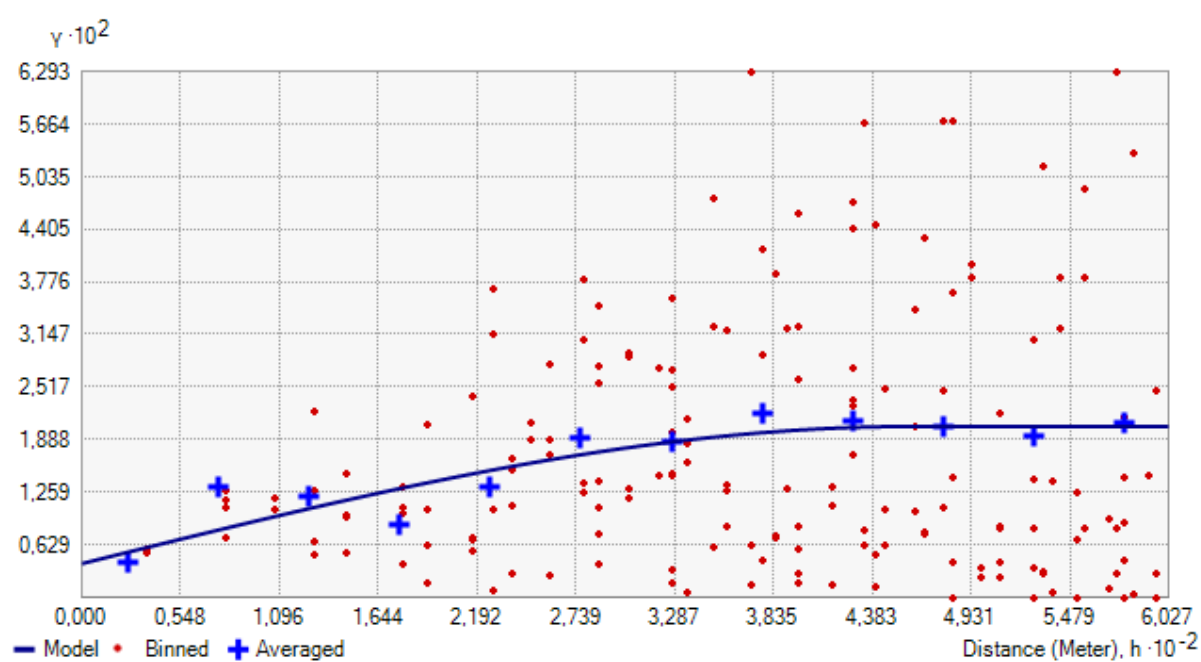
MS 10



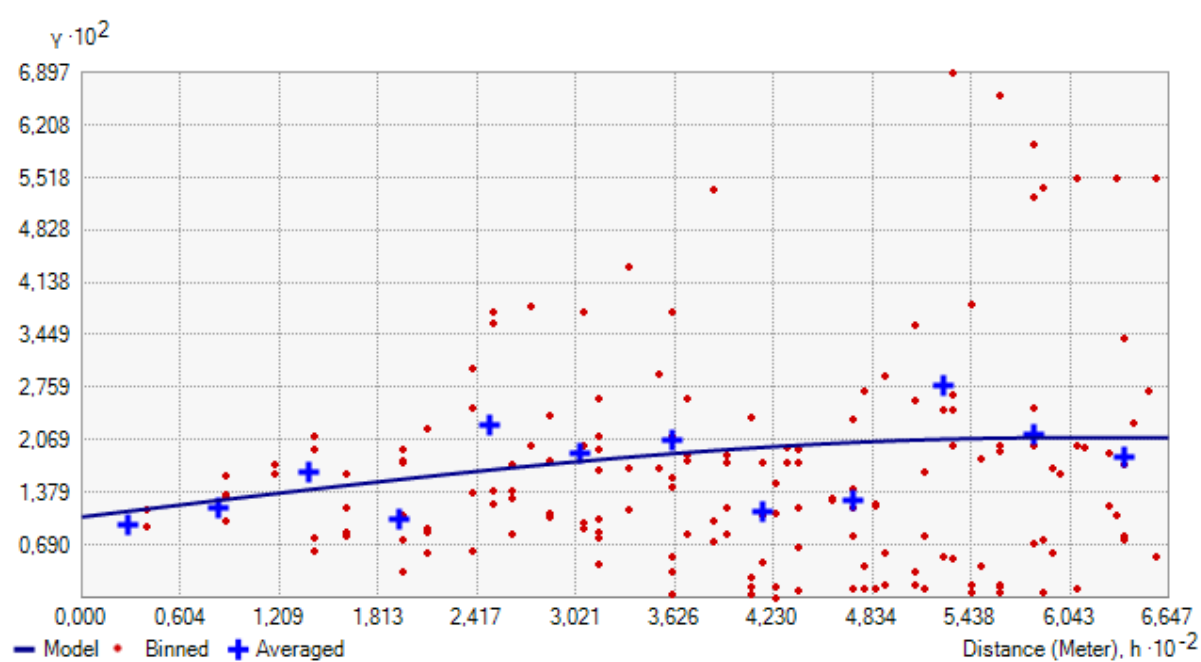
MS 20



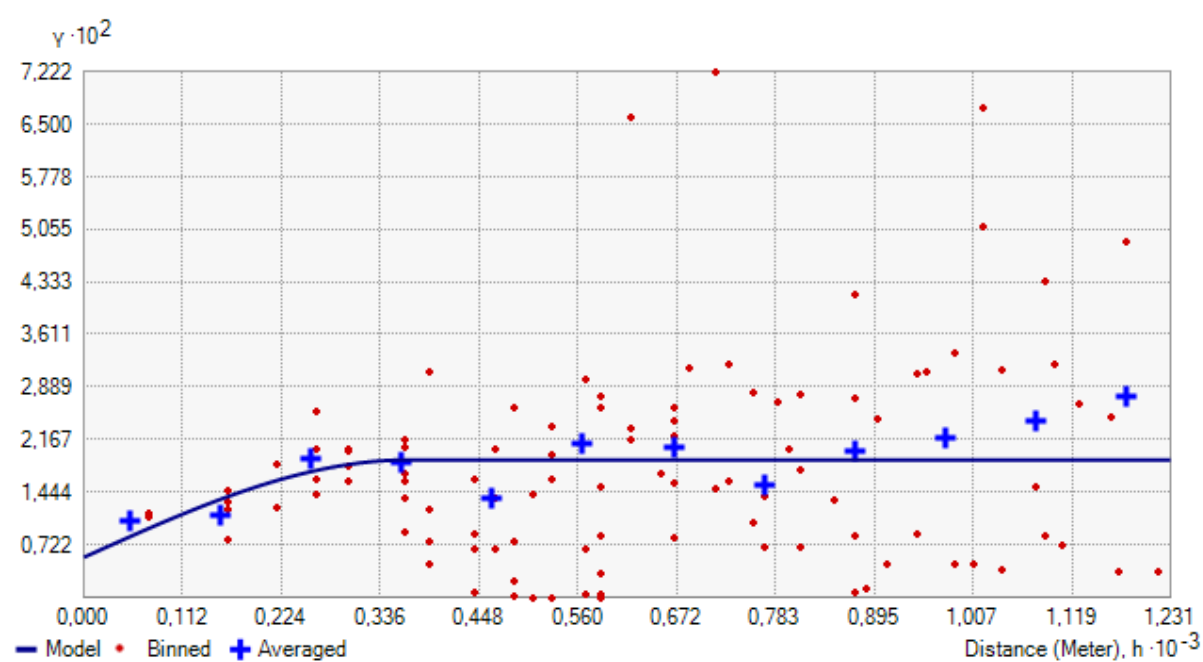
MS 30



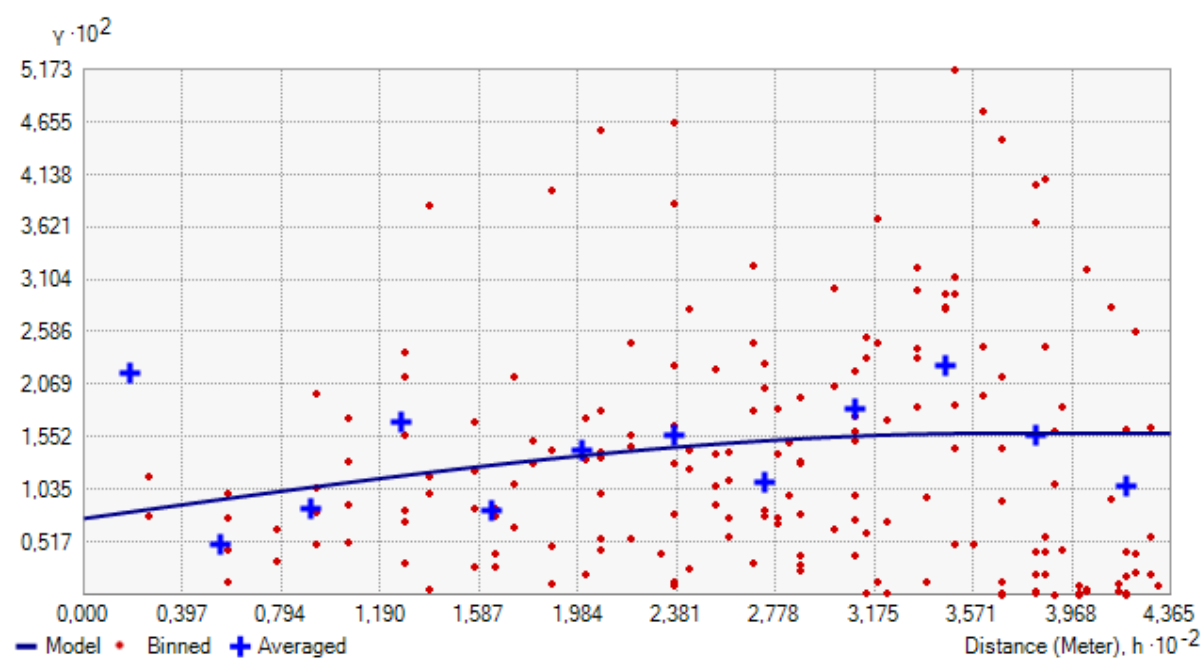
MS 40



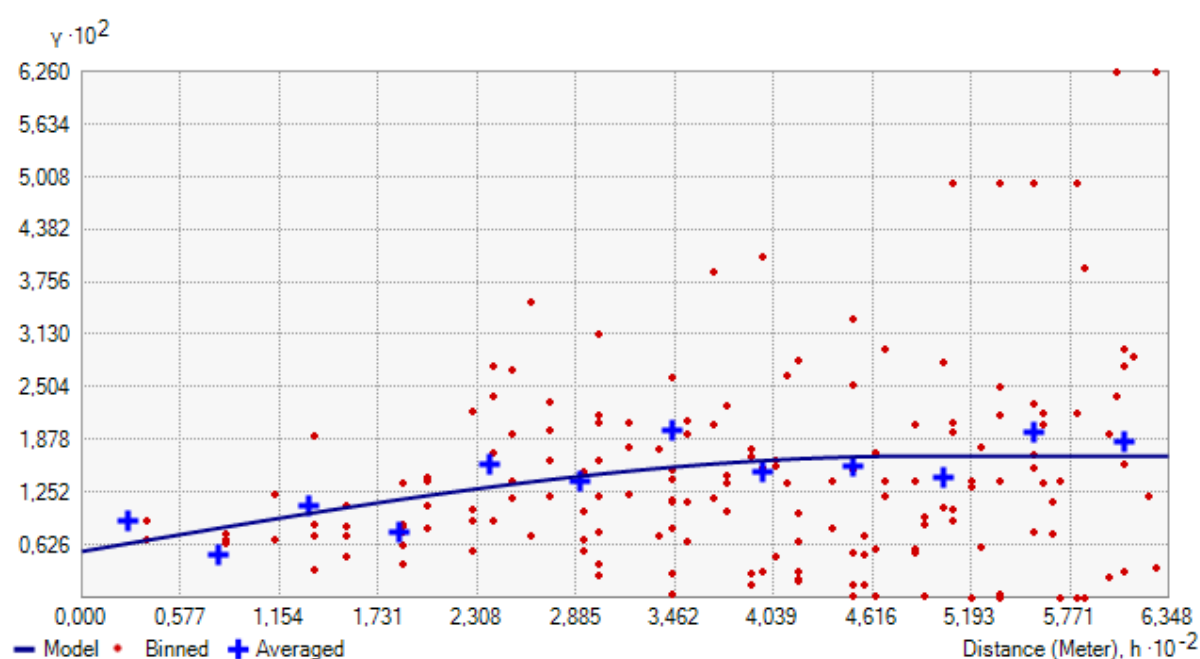
MS 50



MS 60



MS 70



MS 80

