

The SAS System

The RSREG Procedure

Coding Coefficients for the Independent Variables		
Factor	Subtracted off	Divided by
x1	16.500000	5.720000
x2	0.400000	0.160000
x3	12.000000	3.270000

Response Surface for Variable y2	
Response Mean	1303.650000
Root MSE	10.355654
R-Square	0.9969
Coefficient of Variation	0.7944

Regression	DF	Type I Sum of Squares	R-Square	F Value	Pr > F
Covariates	2	36595	0.1313	170.62	<.0001
Linear	3	224060	0.8041	696.45	<.0001
Quadratic	3	2914.398954	0.0105	9.06	0.0060
Crossproduct	3	14203	0.0510	44.15	<.0001
Total Model	11	277773	0.9969	235.47	<.0001

Residual	DF	Sum of Squares	Mean Square
Total Error	8	857.916592	107.239574

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Parameter	DF	Estimate	Standard Error	t Value	Pr > t	Parameter Estimate from Coded Data
Intercept	1	80.400581	203.714997	0.39	0.7034	1331.819782
x1	1	49.591153	10.783039	4.60	0.0018	135.133096
x2	1	-2106.494846	366.319016	-5.75	0.0004	112.658537
x3	1	119.008200	20.517750	5.80	0.0004	116.529330
x1*x1	1	0.128721	0.232199	0.55	0.5945	4.211552
x2*x1	1	37.500000	10.460790	3.58	0.0071	34.320000
x2*x2	1	480.450874	294.009536	1.63	0.1409	12.299542
x3*x1	1	-3.767857	0.523040	-7.20	<.0001	-70.475507
x3*x2	1	150.625000	18.306383	8.23	<.0001	78.807000
x3*x3	1	-3.393862	0.710621	-4.78	0.0014	-36.290222
block1	1	-88.357047	5.593238	-15.80	<.0001	-88.357047
block2	1	10.642953	5.593238	1.90	0.0936	10.642953

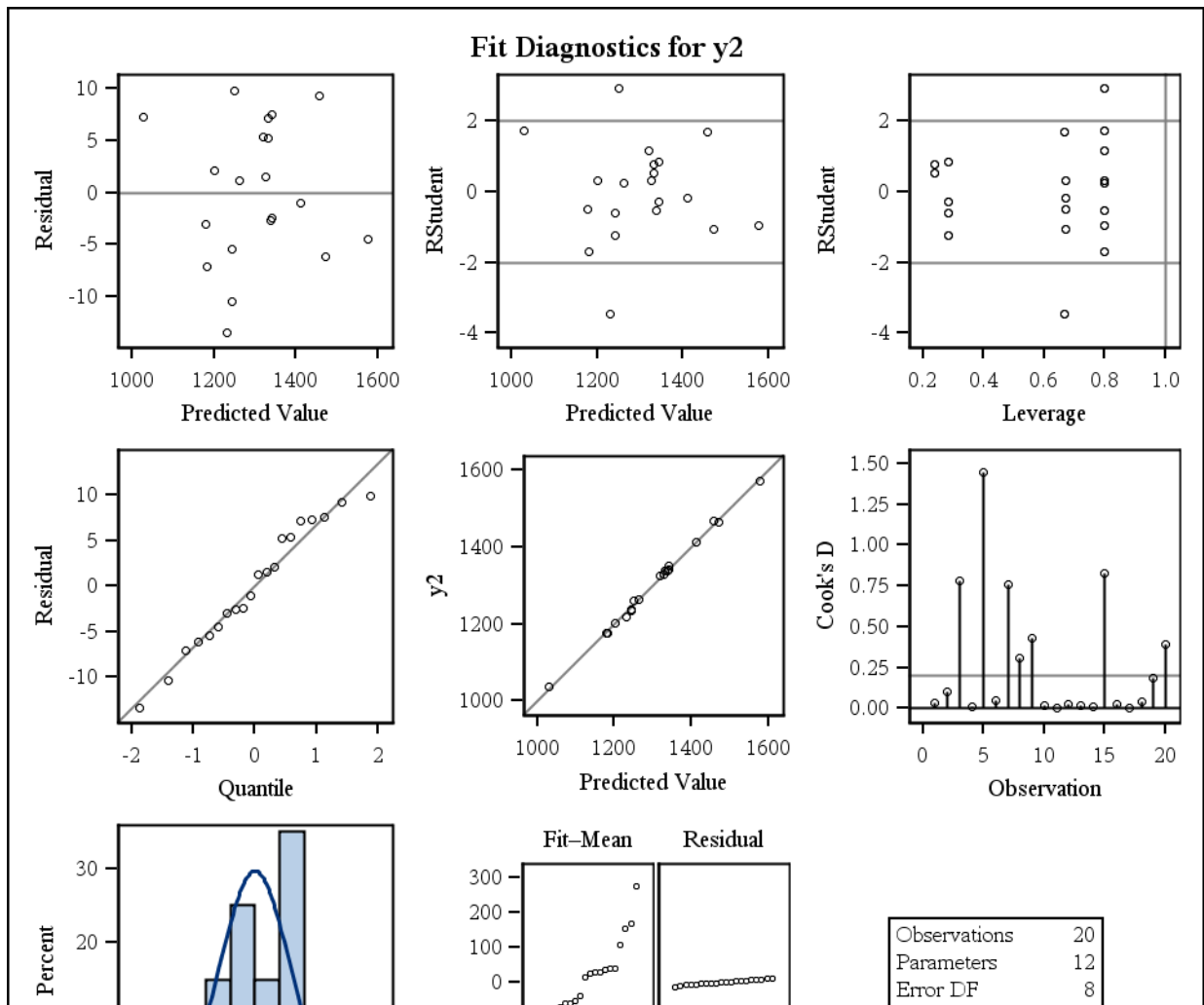
Factor	DF	Sum of Squares	Mean Square	F Value	Pr > F
x1	4	98194	24549	228.91	<.0001
x2	4	73971	18493	172.44	<.0001
x3	4	83067	20767	193.65	<.0001

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The RSREG Procedure Canonical Analysis of Response Surface Based on Coded Data

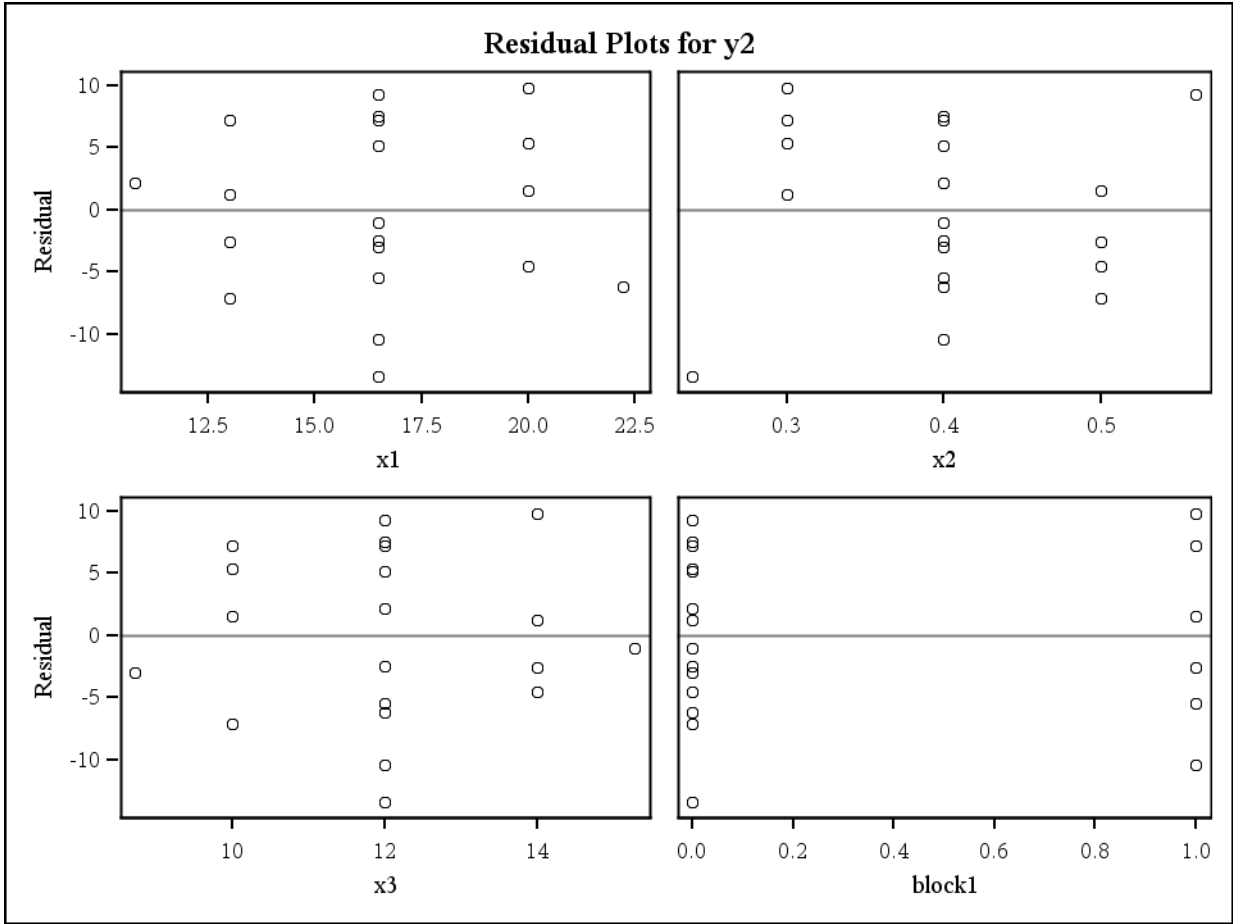
Factor	Critical Value	
	Coded	Uncoded
x1	-1.871973	5.792312
x2	-2.888209	-0.062113
x3	0.287219	12.939207
Predicted value at stationary point: 1036.066799		

Eigenvalues	Eigenvectors		
	x1	x2	x3
34.640450	-0.154928	0.828936	0.537459
22.704596	0.887626	0.355640	-0.292644
-77.124173	0.433725	-0.431723	0.790884
Stationary point is a saddle point.			



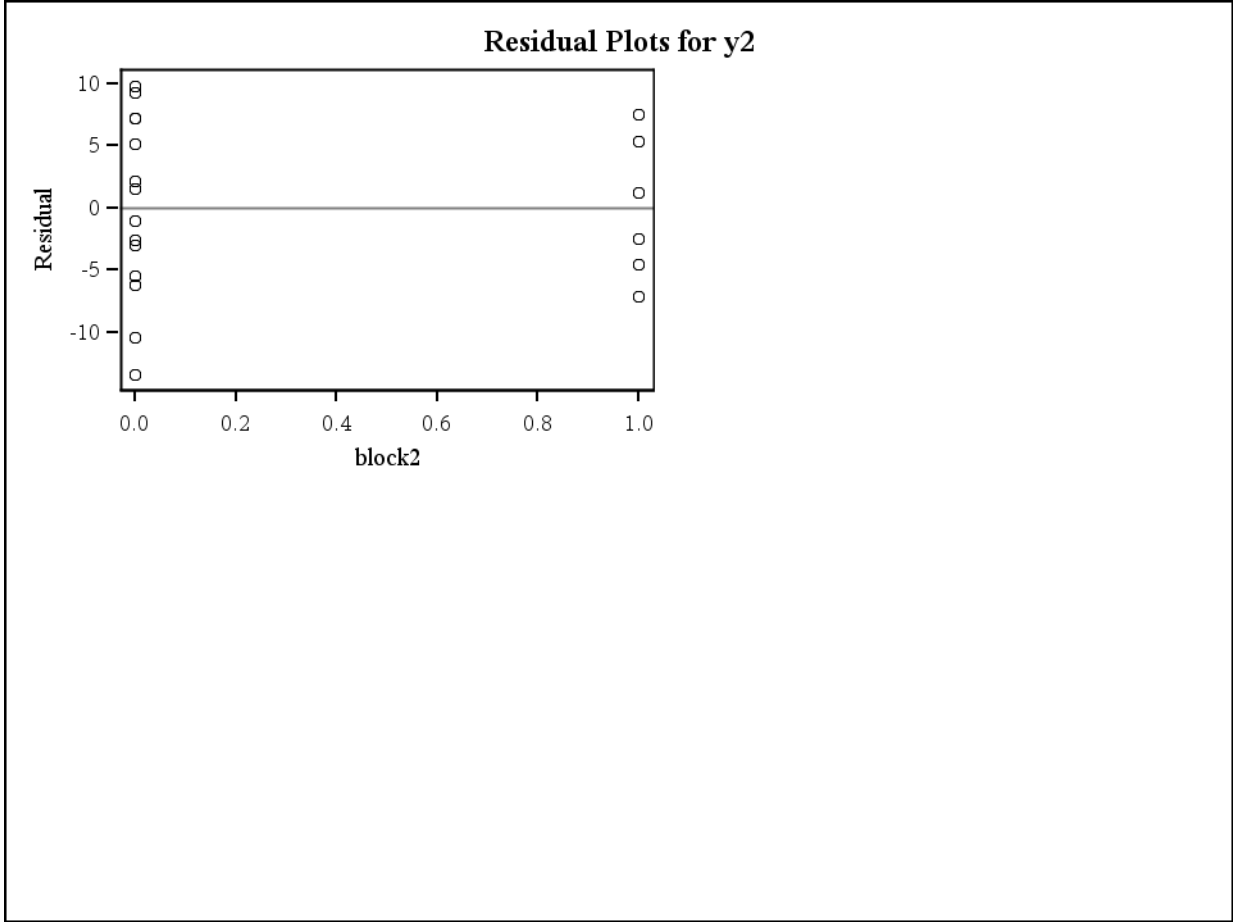
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