

ANOVA for equations 11 to 20

ANOVA for Extract (Equation 11)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	21.4446	13	1.64959	4.01	0.0090
Total error	5.35124	13	0.411633		
Total (corr.)	26.7959	26			

R-squared = 80.0296 percent

R-squared (adjusted for d.f.) = 60.0592 percent

Standard Error of Est. = 0.641587

Mean absolute error = 0.286107

Durbin-Watson statistic = 1.75717 (P=0.2691)

Lag 1 residual autocorrelation = 0.119551

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between E and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 80.0296% of the variability in E. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 60.0592%. The standard error of the estimate shows the standard deviation of the residuals to be 0.641587. The mean absolute error (MAE) of 0.286107 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for TPCFC (Equation 12)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	2.34805E6	13	180619.	76.79	0.0000
Total error	30575.6	13	2351.97		
Total (corr.)	2.37863E6	26			

R-squared = 98.7146 percent

R-squared (adjusted for d.f.) = 97.4291 percent

Standard Error of Est. = 48.4971

Mean absolute error = 25.7863

Durbin-Watson statistic = 1.9481 (P=0.4479)

Lag 1 residual autocorrelation = 0.00483706

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between TPCFC and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 98.7146% of the variability in TPCFC. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 97.4291%. The standard error of the estimate shows the standard deviation of the residuals to be 48.4971. The mean absolute error (MAE) of 25.7863 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for TPCFG (Equation 13)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	7.64211E6	13	587855.	109.32	0.0000
Total error	69904.0	13	5377.23		
Total (corr.)	7.71202E6	26			

R-squared = 99.0936 percent

R-squared (adjusted for d.f.) = 98.1871 percent

Standard Error of Est. = 73.3296

Mean absolute error = 40.8718

Durbin-Watson statistic = 1.66442 (P=0.1967)

Lag 1 residual autocorrelation = 0.149485

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between TPCFG and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 99.0936% of the variability in TPCFG. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 98.1871%. The standard error of the estimate shows the standard deviation of the residuals to be 73.3296. The mean absolute error (MAE) of 40.8718 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for PA (Equation 14)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	230000.	13	17692.3	58.85	0.0000
Total error	3908.42	13	300.647		
Total (corr.)	233909.	26			

R-squared = 98.3291 percent

R-squared (adjusted for d.f.) = 96.6582 percent

Standard Error of Est. = 17.3392

Mean absolute error = 9.96032

Durbin-Watson statistic = 1.66426 (P=0.1966)

Lag 1 residual autocorrelation = 0.135998

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between PA and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 98.3291% of the variability in PA. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 96.6582%. The standard error of the estimate shows the standard deviation of the residuals to be 17.3392. The mean absolute error (MAE) of 9.96032 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for FPC (Equation 15)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	496089.	13	38160.7	89.65	0.0000
Total error	5533.56	13	425.659		
Total (corr.)	501623.	26			

R-squared = 98.8969 percent

R-squared (adjusted for d.f.) = 97.7937 percent

Standard Error of Est. = 20.6315

Mean absolute error = 11.2653

Durbin-Watson statistic = 1.86272 (P=0.3643)

Lag 1 residual autocorrelation = 0.0517652

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between FPC and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 98.8969% of the variability in FPC. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 97.7937%. The standard error of the estimate shows the standard deviation of the residuals to be 20.6315. The mean absolute error (MAE) of 11.2653 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for DPPH (Equation 16)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	3.32205E6	13	255542.	11.51	0.0000
Total error	288701.	13	22207.8		
Total (corr.)	3.61075E6	26			

R-squared = 92.0044 percent

R-squared (adjusted for d.f.) = 84.0088 percent

Standard Error of Est. = 149.023

Mean absolute error = 82.5264

Durbin-Watson statistic = 2.41887 (P=0.8576)

Lag 1 residual autocorrelation = -0.233357

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between DPPH and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 92.0044% of the variability in DPPH. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 84.0088%. The standard error of the estimate shows the standard deviation of the residuals to be 149.023. The mean absolute error (MAE) of 82.5264 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for FRAP (Equation 17)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	1.48527E7	13	1.14252E6	23.78	0.0000
Total error	624662.	13	48050.9		
Total (corr.)	1.54774E7	26			

R-squared = 95.964 percent

R-squared (adjusted for d.f.) = 91.9281 percent

Standard Error of Est. = 219.205

Mean absolute error = 122.003

Durbin-Watson statistic = 2.09669 (P=0.5965)

Lag 1 residual autocorrelation = -0.132533

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between FRAP and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 95.964% of the variability in FRAP. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 91.9281%. The standard error of the estimate shows the standard deviation of the residuals to be 219.205. The mean absolute error (MAE) of 122.003 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for CUPRAC (Equation 18)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	3.8226E7	13	2.94046E6	6.71	0.0008
Total error	5.69274E6	13	437903.		
Total (corr.)	4.39187E7	26			

R-squared = 87.038 percent

R-squared (adjusted for d.f.) = 74.076 percent

Standard Error of Est. = 661.743

Mean absolute error = 381.098

Durbin-Watson statistic = 1.1882 (P=0.0161)

Lag 1 residual autocorrelation = 0.38426

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between CUPRAC and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 87.038% of the variability in CUPRAC. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 74.076%. The standard error of the estimate shows the standard deviation of the residuals to be 661.743. The mean absolute error (MAE) of 381.098 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is less than 5.0%, there is an indication of possible serial correlation at the 5.0% significance level. Plot the residuals versus row order to see if there is any pattern that can be seen.

ANOVA for ABTS (Equation 19)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	3.31191E7	13	2.54763E6	7.09	0.0006
Total error	4.67305E6	13	359466.		
Total (corr.)	3.77922E7	26			

R-squared = 87.6349 percent

R-squared (adjusted for d.f.) = 75.2697 percent

Standard Error of Est. = 599.554

Mean absolute error = 293.734

Durbin-Watson statistic = 2.0363 (P=0.5365)

Lag 1 residual autocorrelation = -0.0223872

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between ABTS and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 87.6349% of the variability in ABTS. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 75.2697%. The standard error of the estimate shows the standard deviation of the residuals to be 599.554. The mean absolute error (MAE) of 293.734 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.

ANOVA for ORAC (Equation 20)

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Special Cubic Model	7.35717E8	13	5.65937E7	3.29	0.0203
Total error	2.23913E8	13	1.7224E7		
Total (corr.)	9.5963E8	26			

R-squared = 76.6668 percent

R-squared (adjusted for d.f.) = 53.3336 percent

Standard Error of Est. = 4150.19

Mean absolute error = 2097.48

Durbin-Watson statistic = 1.72029 (P=0.2389)

Lag 1 residual autocorrelation = 0.117366

The StatAdvisor

This table shows an analysis of variance for the currently selected special cubic model. Since the P-value for this model is less than 0.05, there is a statistically significant relationship between ORAC and the components at the 95.0% confidence level.

The R-Squared statistic indicates that the model as fitted explains 76.6668% of the variability in ORAC. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 53.3336%. The standard error of the estimate shows the standard deviation of the residuals to be 4150.19. The mean absolute error (MAE) of 2097.48 is the average value of the residuals. The Durbin-Watson (DW) statistic tests the residuals to determine if there is any significant correlation based on the order in which they occur in your data file. Since the P-value is greater than 5.0%, there is no indication of serial autocorrelation in the residuals at the 5.0% significance level.