

User guide

# Data Analysis Tools

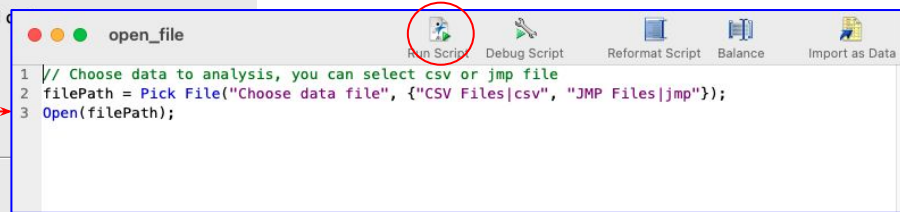
V1.2

Update : 2025/07/09  
Author : SC Hsiao

# Open Data

Step 2. Click **Run Script**

**Open Data**  
Step 1. Click **Open Data**



```
1 // Choose data to analysis, you can select csv or jmp file
2 filePath = Pick File("Choose data file", {"CSV Files|csv", "JMP Files|jmp"});
3 Open(filePath);
```

Step 3. JMP file will automatically pop up.

This is the toolbox for processing, analyzing, and visualizing optical data.

 [Click here to view the instructions.](#)

## Data Process

Exclude Duplicate

Setup Spec

Exclude Outlier

## Process Capability

Normal distribution

Best Fit

## Report Generate

Please paste JSL code:

Extract Process Variables Data

## Analysis Tools

Correlation

# Data Process - Exclude Duplicate

Step 2. Click **Run Script**

This is the toolbox for processing, analyzing, and visualizing data. [Click here to view the instructions.](#)

**Data Process**

**Exclude Duplicate**    **Setup Spec**

**Process Capability**

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**Report Generate**

Please paste JSL code:

**Analysis Tools**

Correlation

```
1 // JMP Duplicate Process JSL Script
2 // Editor: SC Hsiao
3 // Update date : 2025/07/09
4 // Version V 1.4
5 // =====
6 // PURPOSE: Remove duplicate
7 // =====
8
9 Names Default To Here(1);
10
```

Processing file:  
Concat of segundo\_bluni\_20250115-20250120\_3.jmp

Final result base on AAB judgment

Select SN column:  
SerialNumber

Select Judge column:  
SerialNumber

Next

Define PASS/FAIL Values...

Final result base on AAB judgment  
Please define PASS and FAIL below

Select values that represent PASS:  
PASS  
FAIL

Select values that represent FAIL:  
PASS  
FAIL

Exclude duplicate    Cancel

Step 1. Click **Exclude duplicate**

Step 3-1. Select **SN** number column

Step 3-2. Select **Judge** column(with pass and fail)

Step 3-3. Click **Next**

Step 4-1. Select **PASS** value.

Step 4-2. Select **Fail** value.

Step 4-3. Click **Exclude duplicate**

# Data Process - Setup Spec

Step 2. Click **Run Script**

This is the toolbox for processing, analyzing, and visualizing data. [Click here to view the instructions.](#)

**Open Data**

**Data Process**

**Process Capability**

**Report Generate**

Please paste JSL code:

**Analysis Tools**

```
1 // JMP Spec Setup JSL script
2 // Editor : SC Hsiao
3 // Update date : 2025/07/05
4 // Version V 1.2
5 // Description: Setup spec limits for data
6 // Note: Requires data file to be opened
7 //-----
8
9 Names Default To Here(1);
10
```

**Columns (228/1)**

W255_P1_x	*
W255_P1_y	*
W255_P1_Lv	*
R255_P1_x	*
R255_P1_y	*
R255_P1_Lv	
G255_P1_x	*
G255_P1_y	*
G255_P1_Lv	
B255_P1_x	*
B255_P1_y	*

Step 3. Check if JMP file left column have “\* ”.  
It means success added the spec.

# Data Process - Exclude Outlier

This is the toolbox for processing, analyzing, and visualizing optical data.

 [Click here to view the instructions.](#)

Open Data

## Data Process

Exclude Duplicate

Setup Spec

Exclude Outlier

Step 1. Click **Setup Spec**

## Process Capability

Normal distribution

Best Fit

## Report Generate

Please paste JSL code:

Extract Process Variables Data

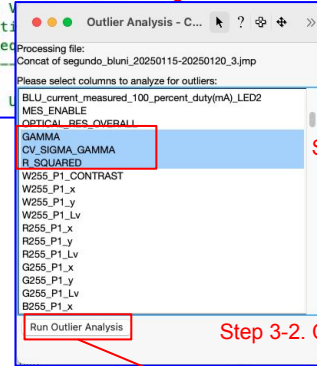
## Analysis Tools

Correlation

Step 2. Click **Run Script**

```
explore_outliers
1 // JMP Explore Outliers with Dynamic Variable Selection
2 // Editor : SC Hsiao
3 // Update date : 2025/07/09
4 // Version V
5 // Descripti
6 // Note: Req
7 //
8
9 // Step 0: U
```

Step 3-1. Choose the data to do Exclude outlier.



Step 3-2. Click **Run Outlier Analysis**

Concat of segundo...

### Explore Outliers

Commands

Quantile Range Outliers

Outliers are values Q times the interquartile range past the lower and upper quantiles.

Tail Quantile: 0.1 Rescan

Q: 3 Restrict search to integers

Outliers by Column

Show only columns with outliers

Select columns and choose an action.

Identify Outliers in Table

Select Rows

Exclude Rows

Color Cells

Color Rows

Clear Outliers in Table

Add to Missing Value Codes

Change to Missing

Formula Columns

Formula Script

Column	10%	90%	Low	High	Number of Outliers
GAMMA	2.20207	2.24176	2.08303	2.3808	0
CV, SIGMA, GAMMA	0.23025	0.54797	-0.7229	1.50113	0
R_SQUARED	0.99979	0.99996	0.99927	1.00048	0

Step 4-2. Click **Exclude Rows**

Step 4-1. Select the items you want to exclude.

# Process Capability - Normal distribution

This is the toolbox for processing, analyzing, and visualizing optical data.  
Click here to view the instructions.

Open Data

Data Process

Exclude Duplicate Setup Spec Exclude Outlier

Process Capability

Normal distribution Best Fit

Report Generate

Please paste JSL code:

Step 1. Click **Normal distribution**

Step 2. Click **Run Script**

Step 3-1. Choose the data to do Normal distribution Process Capability.

Step 3-2. Click **Confirm Selection**

Automatically generate Process Capability(Normal distribution)

Automatically generate Process Capability(Normal distribution)

Concat of segundo\_blun...alReport\_20250709.pptx  
Concat of segundo\_blun...alReport\_20250709.png  
Concat of segundo\_blun...alReport\_20250709.pdf  
Concat of segundo\_blun...alReport\_20250709.html

jmp\_pc\_report\_generate\_normal

```
// JMP report generate (Normal distribution) JSL script
// Editor : SC Hsiao
// Update date : 2025/05/05
// Version V 1.1
// Description: Process Capability Report
// Note: Requires data table
//-----
// Step 0: Use current data table
// Get the current data table name
var dt = getdata();
var dt_name = dt.getname();

// Select columns (use Shift/Ctrl to select multiple):
// BLU_current_measured_100_percent_duty(mA)_LED1
// BLU_current_measured_100_percent_duty(mA)_LED2
// MES_ENABLE
// OPTICAL_RES_OVERALL
// GAMMA
// CV_SIGMA_GAMMA
// R_SQUARED
// W255_P1_CONTRAST
// W255_P1_x
// W255_P1_y
// W255_P1_Lv
// R255_P1_x
// R255_P1_y
// R255_P1_Lv
// G255_P1_x
// G255_P1_y
// G255_P1_Lv
```

Processing file: Concat of segundo\_blun\_20250115-20250120\_3.jmp  
Rows: 446, Columns: 228

Please select columns (use Shift/Ctrl to select multiple):

BLU\_current\_measured\_100\_percent\_duty(mA)\_LED1  
BLU\_current\_measured\_100\_percent\_duty(mA)\_LED2  
MES\_ENABLE  
OPTICAL\_RES\_OVERALL  
GAMMA  
CV\_SIGMA\_GAMMA  
R\_SQUARED  
W255\_P1\_CONTRAST  
W255\_P1\_x  
W255\_P1\_y  
W255\_P1\_Lv  
R255\_P1\_x  
R255\_P1\_y  
R255\_P1\_Lv  
G255\_P1\_x  
G255\_P1\_y  
G255\_P1\_Lv

Confirm Selection

Process Capability

Individual Detail Reports

Overall Sigma Capability Summary Report

Process	LSL	Target	USL	Sample Mean	Ppk	Expected % Outside	Observed % Outside
GAMMA	2.1	2.2	2.3	2.221	1.72	0.00	0.00
CV_SIGMA_GAMMA	.	.	1.5	0.366	2.99	0.00	0.00
R_SQUARED	0.99	.	.	1.000	42.09	0.00	0.00

# Process Capability - Best Fit distribution

This is the toolbox for processing, analyzing, and visualizing optical data.

[Click here to view the instructions.](#)

**Open Data**

**Data Process**

Exclude Duplicate   Setup Spec   Exclude Outlier

**Process Capability**

Normal distribution   **Best Fit**

**Report Generate**

Please paste JSL code:

Extract Process Variables Data

**Analysis Tools**

Correlation

**best\_fit\_distribution**

```
1 // Open Process Capability window, manually select columns GUI
2 Eval(
3   Expr(
4     Process Capability(
5
```

**Process Capability**

Analyzes process capability with respect to specification limits.

Select Columns

Q Enter column name

228 Columns

- SLOT\_ID
- PANEL\_TYPE
- BLU\_current\_regist...percent\_duty(mA)
- BLU\_current\_meas...ent\_duty(mA)\_LED1
- BLU\_current\_meas...ent\_duty(mA)\_LED2
- BLU\_current\_regist...percent\_duty(mA)
- BLU\_current\_meas...ent\_duty(mA)\_LED1
- BLU\_current\_meas...ent\_duty(mA)\_LED2
- MES\_ENABLE
- OPTICAL\_RES\_OVERALL
- GAMMA
- CV\_SIGMA\_GAMMA
- R\_SQUARED

Specify Alpha Level: 0.05

Show Spec Limits Dialog

☒ If Needed (when columns

☐ Yes

☐ No (skip columns with no

**Y, Process**

**Process Subgrouping**

**Moving Range Options**

**Historical Information**

**Distribution Options**

Set Process Distribution

Distribution

Normal

Nonnormal

Normal

Beta

Exponential

Gamma

Johnson

Lognormal

Mixture of 2 Normals

Mixture of 3 Normals

SHASH

Weibull

Nonparametric

Best Fit

**Step 3-2. Click Y, Process**

**Step 3-3. Select all**

**Step 3-4. Select Best Fit distribution**

**Step 3-5. Select Best Fit distribution**

**Step 3-6. Click Set Process Capability.**

**Generate Best Fit distribution Process Capability.**

**You can click ▼ button to analysis more data.**

**Concat of segundo\_blu\_i\_20250115-20250120\_3 - Process Capability 2**

**Process Capability**

Search

Individual Detail Reports

Capability Index Plot

Summary Reports

Out of Spec Values

Order By

Save

Relaunch Dialog

**Summary Report**

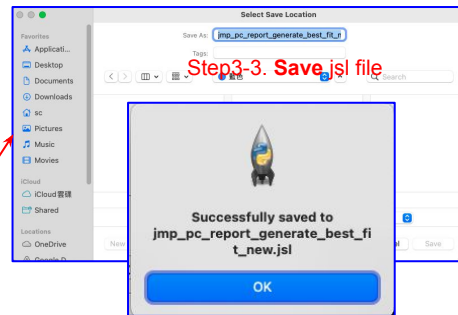
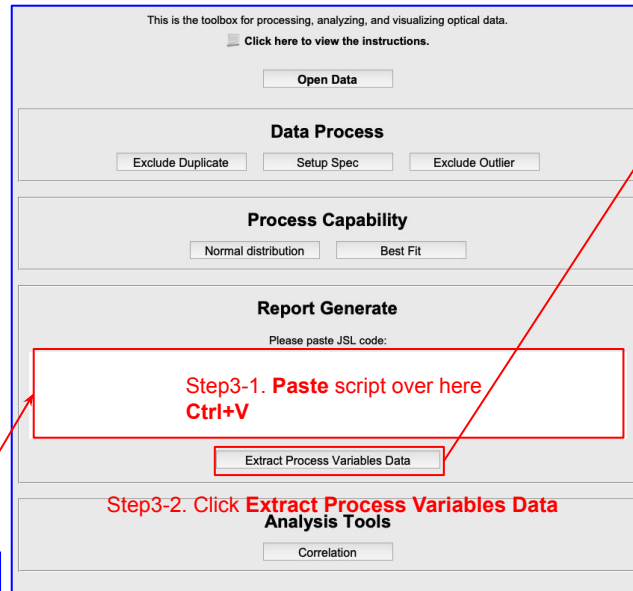
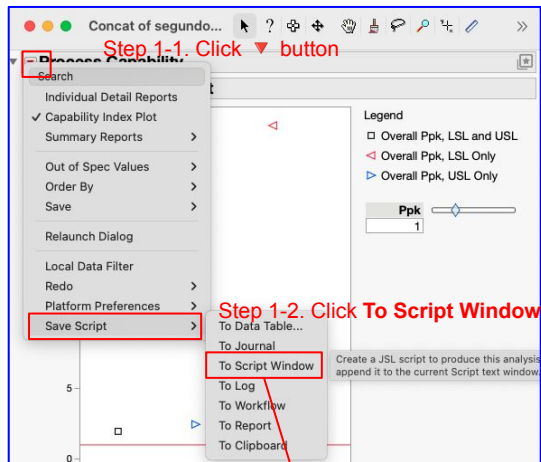
	USL	Sample Mean	Sample Std Dev	Ppk	Ppl	Ppu	Pp	Cpm	Expected % Outside
Overall Sigma Summary Report	2.3	2.221001	0.016277	1.931	2.923	1.931	2.431	1.409	0.0000
3 Normals	1.5	0.366047	0.126264	2.426		2.426			0.0000
1st	0.99	0.999895	7.837e-5	23.652	23.652				0.0000

Legend

☐ Overall Ppk, LSL and USL

# Report Generate

After generate Process capability report,  
use this tool to help us generate the report format we need.



Step 3-4. Click OK



Step 2. Select all script, then copy  
Ctrl+A -> Ctrl+C

Process	LSL	Target	USL	Sample Mean	Ppk	Expected % Outside	Observed % Outside
GAMMA(Mixture of 3 Normals)	2.1	2.2	2.3	2.221	1.93	0.00	0.00
CV_SIGMA, GAMMA(Mixture of 3 Normals)			1.5	0.366	2.43	0.00	0.00
R_SQUARED(Mixture of 3 Normals)	0.99			1.000	23.66	0.00	0.00



Automatically generate Process Capability(Best Fit distribution)



# A - Exclude Duplicate

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**Open Data**

**Data Process**

**Exclude Duplicate** **Setup Spec** **Exclude Outlier**

**Process Capability**

**Normal distribution** **Best Fit**

**Report Generate**

Please paste JSL code:

**Extract Process Variables Data**

**Analysis Tools**

**Correlation**

Step 1. Click **Correlation**

Step 2. Click **Run Script**

```
correlation_tool

1 // JMP correlation analysis JSL script
2 // Editor : SC Hsiao
3 // Update date : 2025/04/30
4 // Version V 1.1
5 //-----
6
```

**Select X and Y for Correlation Plot**

Please select X-axis column:

- BLU\_current\_measured\_100\_percent\_duty(mA)\_LED2
- MES\_ENABLE
- OPTICAL\_RES\_OVERA
- GAMMA
- CV\_SIGMA\_GAMMA
- R\_SQUARED
- W255\_P1\_CONTRAST
- W255\_P1\_x**
- W255\_P1\_y
- W255\_P1\_Lv

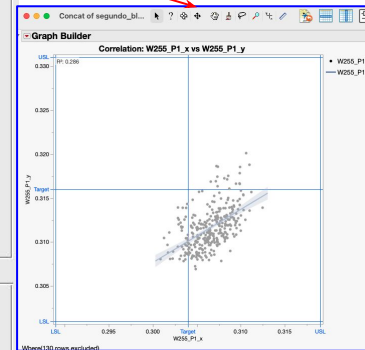
Please select Y-axis column:

- MES\_ENABLE
- OPTICAL\_RES\_OVERALL
- W255\_P1\_x
- W255\_P1\_y**
- W255\_P1\_Lv
- R255\_P1\_x

**OK**

Step 3-1. Choose 2 column to analysis Correlation

Step 3-2. Click **OK**



Generate those data's Correlation Plot, also show R2 and auto save the image.