

User guide

# Advanced Data Analysis Tools

V1.2

Update : 2025/07/10  
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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:


Generate in report format

## Analysis Tools

Correlation

# Open Data

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**Open Data**

**Data Process**

Exclude Duplicate   Setup Spec   Exclude Outlier

**Process Capability**

Normal distribution   Best Fit

**Report Generate**

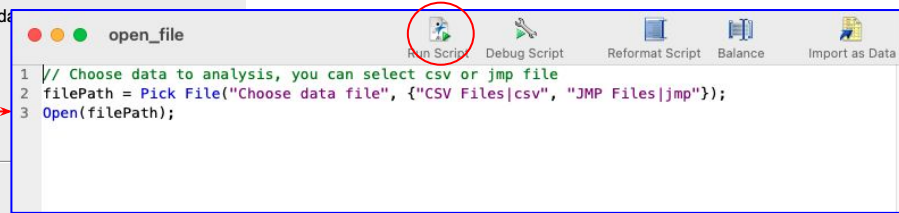
Please paste JSL code:

Generate in report format

**Analysis Tools**

Correlation

Step 2. Click **Run Script**



```
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.

# 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**

Open Data **Exclude Duplicate** Setup Spec

**Process Capability**

Normal distribution Best Fit

**Report Generate**

Please paste JSL code:

Generate in report format

**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
```

Run Script Debug Script Reformat Script Balance Import as Data

Duplicate Process...

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](#)

**Data Process**

**Process Capability**

**Report Generate**

Please paste JSL code:

**Analysis Tools**

**spec\_setup\_20250709\_094525**

```
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:

Generate in report format

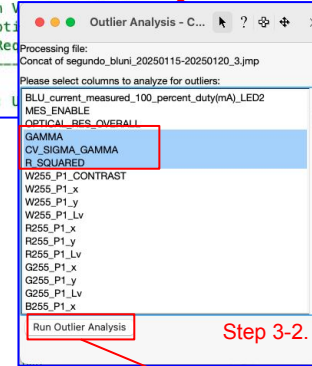
## Analysis Tools

Correlation

Step 2. Click **Run Script**

```
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**

**Explore Outliers**

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 Color Cells Add to Missing Value Codes Formula Columns

Exclude Rows Color Rows Change to Missing Formula Script

| Column           | Quantile | Quantile | Threshold | Threshold | Outliers (Count) |
|------------------|----------|----------|-----------|-----------|------------------|
| 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.](#)

**Data Process**

Open Data

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**

```
1 // JMP report generate (Normal distribution) JSL script
2 // Editor : SC Hsiao
3 // Update date : 2025/05/05
4 // Version V 1.1
5 // Description: Process Capability
6 // Note: Requires data table
7 //-----
8 //-----
9
10 // Step 0: Use current data table
11 // Get the current data table
12 dt = Get Data Table("Concat of segundo_bluni_20250115-20250120_3.jmp");
13
14 // Step 1: Select columns
15 Please select columns (use Shift/Ctrl to select multiple):
16 BLU_current_measured_100_percent_duty(mA)_LED1
17 BLU_current_measured_100_percent_duty(mA)_LED2
18 MES_ENABLE
19 OPTICAL_RES_OVERALL
20 GAMMA
21 CV_SIGMA_GAMMA
22 R_SQUARED
23 W255_P1_CONTRAST
24 W255_P1_x
25 W255_P1_y
26 W255_P1_Lv
27 R255_P1_x
28 R255_P1_y
29 R255_P1_Lv
30 G255_P1_x
31 G255_P1_y
32 G255_P1_Lv
```

**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\_bluni...alReport\_20250709.pptx**

**Concat of segundo\_bluni...alReport\_20250709.png**

**Concat of segundo\_bluni...alReport\_20250709.pdf**

**Concat of segundo\_bluni...alReport\_20250709.html**

**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

Step 1. Click **Best Fit**

## Report Generate

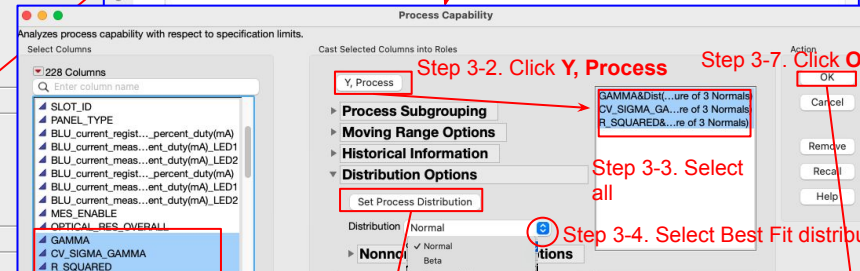
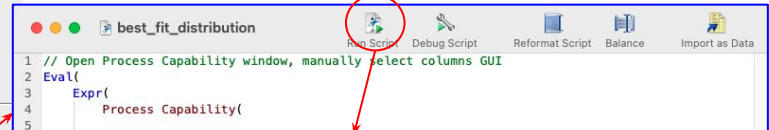
Please paste JSL code:

Generate in report format

## Analysis Tools

Correlation

Step 2. Click **Run Script**



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

Step 3-7. Click **OK**

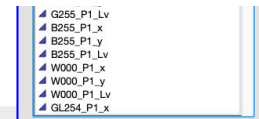
Step 3-3. Select all

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

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

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

Step 3-1. Choose the data to do **Best Fit** distribution **Process Capability**.



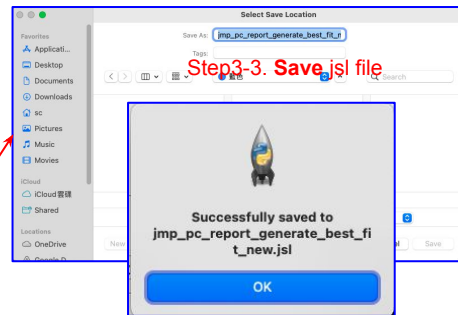
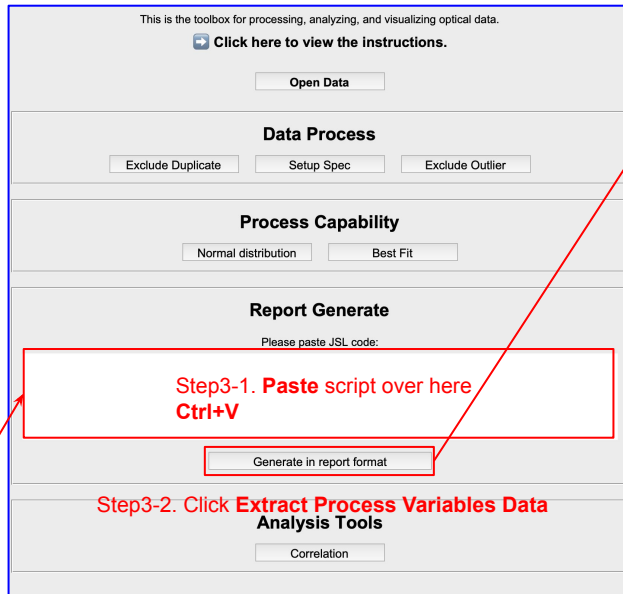
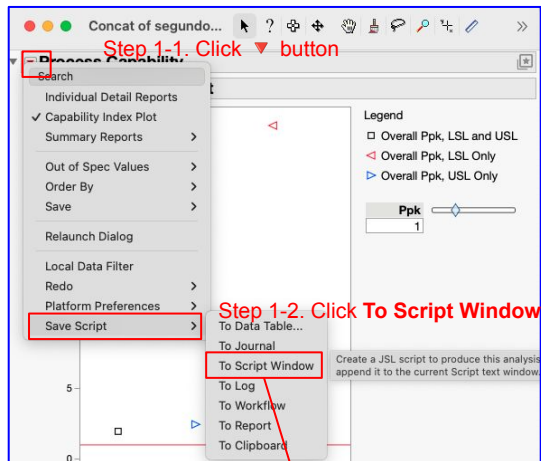
Generate **Best Fit** distribution **Process Capability**. You can click ▼ button to analysis more data.

|                              | 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  | 2.426 |       |       | 0.0000             |
| Nonparametric                | 0.99 | 0.999895    | 7.837e-5       | 23.652 | 23.652 |       |       |       | 0.0000             |

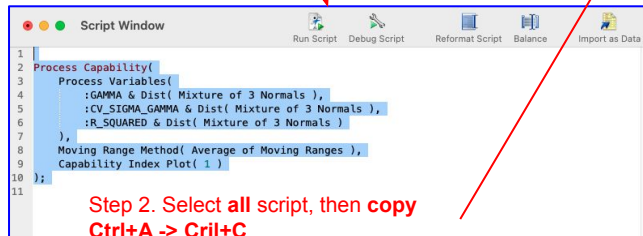
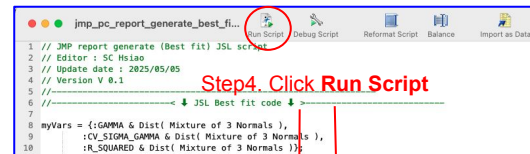


# Report Generate

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



Step 3-4. Click OK



| 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       | 23.65 | 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:

**Generate in report format**

**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

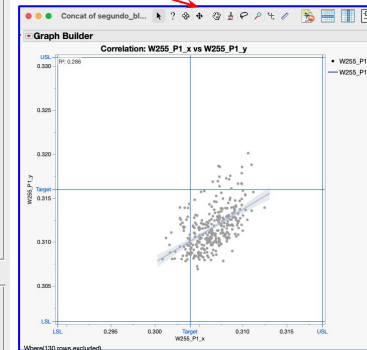
Please select Y-axis column:

- 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.