CHI-SQUARE TEST FOR VARIANCE

HYPOTHESIS TESTING

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TOPIC OUTLINE

Chi-Square Test for Variance

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The **chi-square test for variance** is a statistical method that compares the **sample variance** to the hypothesized population variance.

Hypothesis

$H_o: \sigma_1 = \sigma_o$

$H_a: \sigma_1 \neq \sigma_o$ (p-value $\leq \alpha$)

Assumptions

- Continuous data
- Normal data and non-normal data

syntax

```
from scipy import stats
```

Left-Tailed Test

```
p_value = stats.chi2(chi_sq_stat, dof)
```

Right-Tailed Test

```
p_value =
    1 - stats.chi2(chi_sq_stat, dof)
```

Two-Tailed Test

```
p_value = 2*min(
    stats.chi2(chi_sq_stat, dof),
    1 - stats.chi2(chi_sq_stat, dof))
```

LABORATORY