STL + ARIMA parameter selection Report - 西条

$$y_t = T_t + S_t + R_t$$
$$R_t \sim \mathrm{ARIMA}(p, d, q)$$

y_t: observed time series

T_t: trend component (STL)

S_t: seasonal component (STL)

R_t: residual component modeled by ARIMA

Final forecast = trend + seasonal + ARIMA(residual)

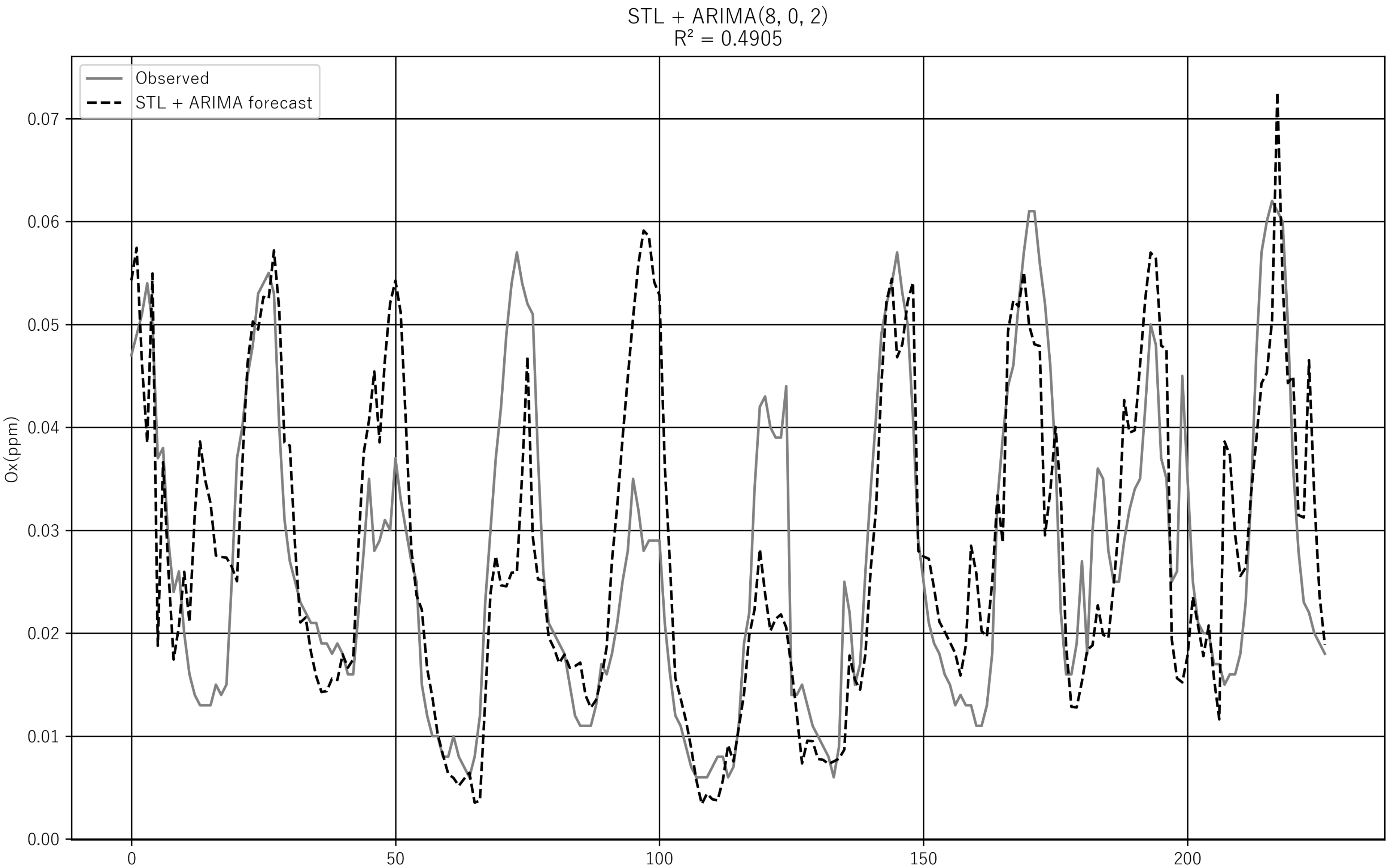
Prefecture code	38
Station code	38206050
Station name	西条
Target item	Ox(ppm)
Model	STL + ARIMA
Seasonal period	24
Training ratio	0.99
Max STL history	720
Best ARIMA order	(8, 0, 2)
Residuals Ljung-Box Prob(Q)	1.2044669199788606e-30
Residuals skewness	0.025016411632412295
Residuals kurtosis	3.5525139970349855
Grid p	[2, 4, 6, 8]
Grid d	[0]
Grid q	[0, 1, 2]

Features used for prediction

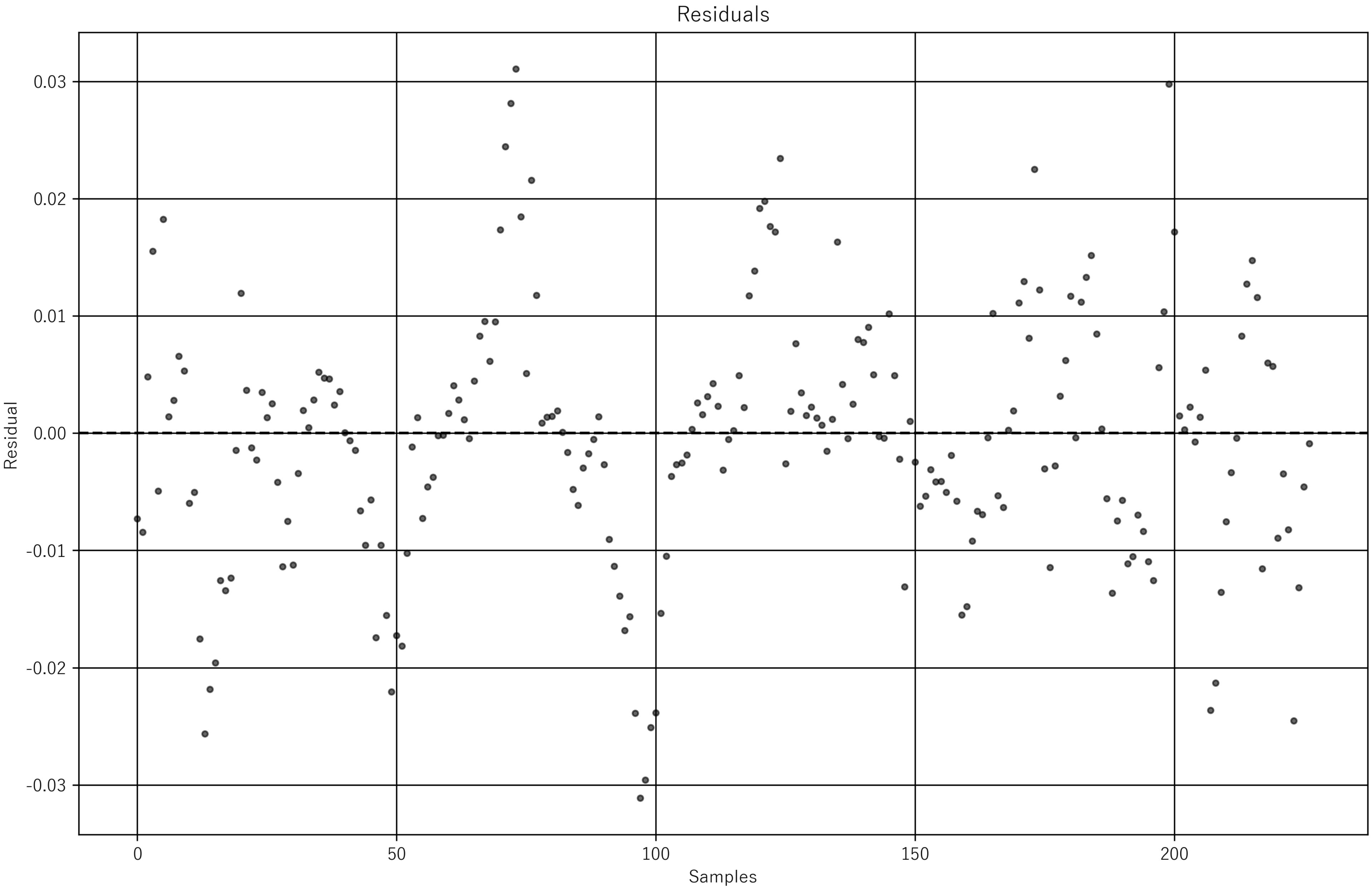
Ox(ppm)

Model accuracy

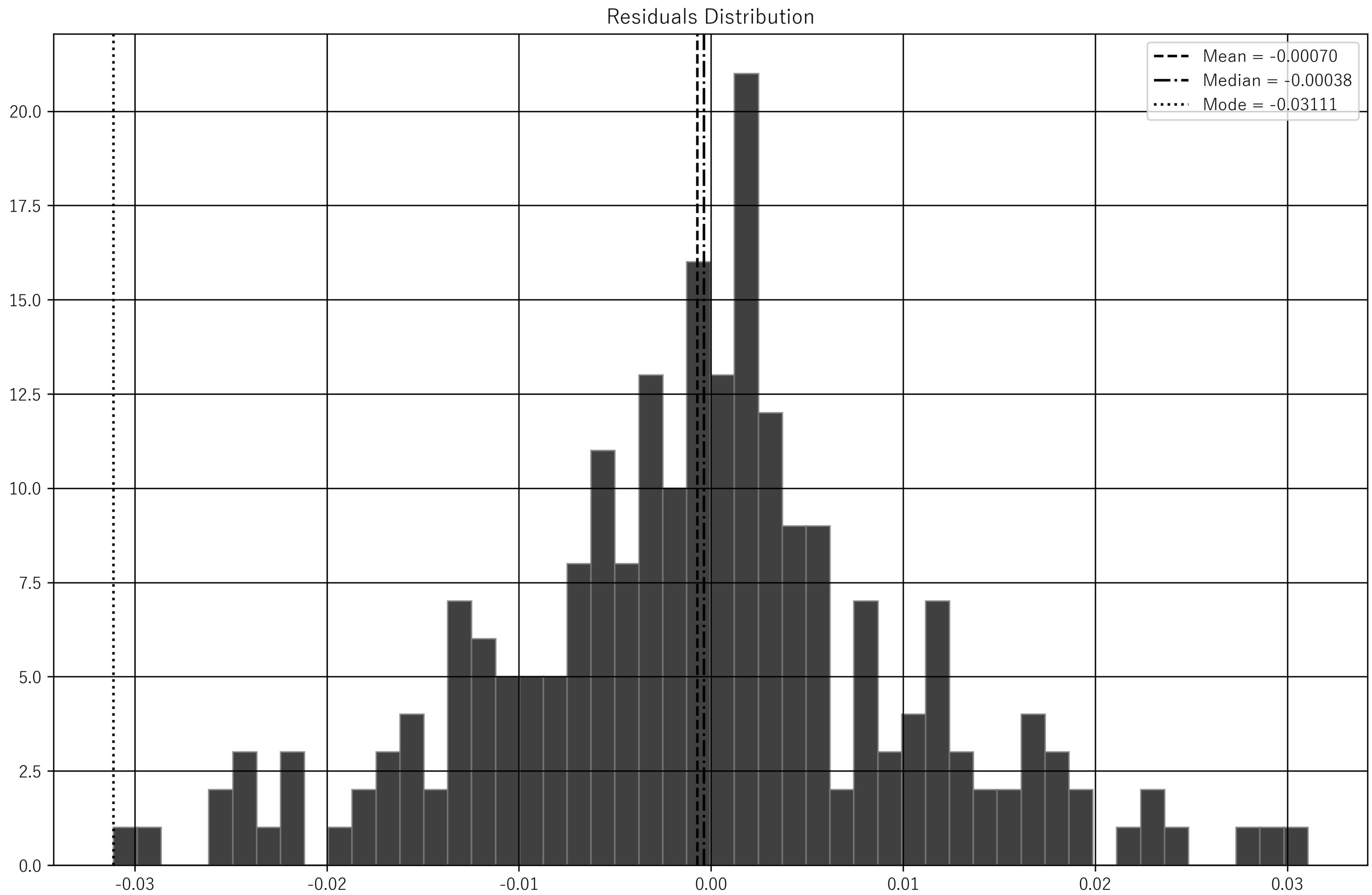
Target	R^2	MAE	RMSE
Ox(ppm)	0.4905	0.0080	0.0108



STL + ARIMA(8, 0, 2)
R² = 0.4905
Observed
STL + ARIMA forecast
Ox(ppm)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0
50
100
150
200



Residuals
Residual
Samples
0.03
0.02
0.01
0.00
-0.01
-0.02
-0.03
0
50
100
150
200



Residuals Distribution
Mean = -0.00070
Median = -0.00038
Mode = -0.03111
0.0
2.5
5.0
7.5
10.0
12.5
15.0
17.5
20.0
-0.03
-0.02
-0.01
0.00
0.01
0.02
0.03