## Response names

| response |  |
| :--- | :---: |
| mean_d1 | mean daily radial growth rate |
| max_d1 | maximum daily radial growth rate |
| xylem | tree ring width |
| max_d1_d | day of the maximum daily growth rate |
| on_e | julian day of onset of enlargement |
| on_l | julian day of onset of secondary wall thickening and lignification |
| on_m | julian day of onset of maturation |

Model 1 - equation 2

| response | r2m | r2c | shapiro | levene | power | remarks |
| :--- | :--- | :--- | :--- | :--- | ---: | :--- |
| mean_d1 | 0.34 | 0.36 | 0.74 | 0.14 | 1000 |  |
| max_d1 | 0.2 | 0.32 | 0.76 | 0.06 | 968 |  |
| xylem | 0.12 | 0.16 | 0.66 | 0.36 | 788 |  |
| max_d1_d | 0.14 | 0.3 | 0.04 |  | 0 | 887 |
| 1 | 1 influential outlier |  |  |  |  |  |
| on_e | 0.02 | 0.62 | 0.1 | 0.92 | 426 | 1 influential outlier |
| on_I | 0.04 | 0.47 | 0.01 | 0.94 | 490 | 3 influential outliers |
| on_m | 0.32 | 0.58 | 0.27 | 0.44 | 1000 |  |
| ce_e | 0.33 | 0.55 | 0.02 | 0.67 | 1000 | 1 influential outlier |
| ce_I | 0.53 | 0.56 | 0.18 | 0.32 | 1000 |  |
| p_e | 0.36 | 0.53 | 0.01 | 0.61 | 1000 | 1 influential outlier |
| p_I | 0.39 | 0.52 | 0.96 | 0.42 | 1000 |  |
| p_grow | 0.48 | 0.58 | 0.11 | 0.27 | 1000 |  |
| GDD | 0.02 | 0.42 | 0.01 | 0.93 | 212 |  |

CE_E
Normal Q-Q Plot


Histogram of residuals(m_Imer)


CE_L
Normal Q-Q Plot
Histogram of residuals(m_Imer)



ON_E Normal Q-Q Plot


Histogram of residuals(m_Imer)



Histogram of residuals(m_Imer)


## P_E Normal Q-Q Plot

Histogram of residuals(m_Imer)


## P_GROW $_{\text {Normal }}$ Q-Q Plot

Histogram of residuals(m_Imer)


Normal Q-Q Plot


Theoretical Quantiles

Histogram of residuals(m_Imer)


MAX_D1 Normal Q-Q Plot


Histogram of residuals(m_Imer)


## MAX_D1_Rormal Q-Q Plot



Sample Quantiles

Histogram of residuals(m_Imer)


MEAN_D1 ${ }^{\text {Normal }}$ Q-Q Plot


Histogram of residuals(m_Imer)


## XYLEM Normal Q-Q Plot

Histogram of residuals(m_Imer)



Model 2: equation 3

| response | r2m | r2c | shapiro | levene | power |
| :--- | :--- | :--- | :--- | :--- | :--- |
| mean_d1 | 0.47 | 0.52 | 0.86 | 0.14 | 0.93 |
| max_d1 | 0.28 | 0.51 | 0.09 | 0.19 | 0.97 |
| xylem | 0.28 | 0.34 | 0.59 | 0.61 | 0.83 |
| max_d1_d | 0.38 | 0.38 | 0.21 | 0.01 | 0.67 |
| on_e | 0.55 | 0.65 | 0.03 | 0.78 | 0.8 |
| on_I | 0.52 | 0.56 | 0.01 | 0.86 | 0.77 |
| on_m | 0.66 | 0.66 | 0.46 | 0.22 | 0.9 |
| ce_e | 0.47 | 0.58 | 0.02 | 0.64 | 0.5 |
| ce_I | 0.62 | 0.65 | 0.04 | 0.32 | 0.87 |
| p_e | 0.48 | 0.58 | 0.02 | 0.6 | 0.4 |
| p_I | 0.59 | 0.64 | 0.26 | 0.41 | 0.9 |
| p_grow | 0.63 | 0.66 | 0.26 | 0.35 | 0.9 |
| GDD | 0.33 | 0.54 |  | 0 | 0.95 |

CE_E

Normal Q-Q Plot


Histogram of residuals(m_Imer)


CE_L Normal Q-Q Plot


Histogram of residuals(m_Imer)



ON_E

Normal Q-Q Plot


Histogram of residuals(m_Imer)


Normal Q-Q Plot


Theoretical Quantiles

Histogram of residuals(m_Imer)


Normal Q-Q Plot
Histogram of residuals(m_Imer)


## P_E Normal Q-Q Plot

Histogram of residuals(m_Imer)


Theoretical Quantiles



## P_GROW

Histogram of residuals(m_Imer)


## P_L Normal Q-Q Plot

Histogram of residuals(m_Imer)



## MAX_D1 Normal Q-Q Plot



Histogram of residuals(m_lmer)


MAX_D1_Qormal Q-Q Plot
Histogram of residuals(m_Imer)


MEAN_D1 Normal Q-Q Plot


Histogram of residuals(m_lmer)


## XYLEM

Histogram of residuals(m_Imer)



