

# Results

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# Contents

- Outliers Detection and Removal;
- 2018 Datasets comparison;
- 2016/17/18 Dataset Analysis;
- Decay Analysis.

# Interquartile range

$$IRQ = Q_3 - Q_1 \quad (1)$$

where:

- $Q_1$  represents the 25th percentile of the data;
- $Q_3$  represents the 75th percentile of the data.

$$\text{Outliers} = \text{Observations} > Q_3 + 1.5 * IRQ \quad (2)$$

or

$$\text{Outliers} = \text{Observations} < Q_3 - 1.5 * IRQ \quad (3)$$

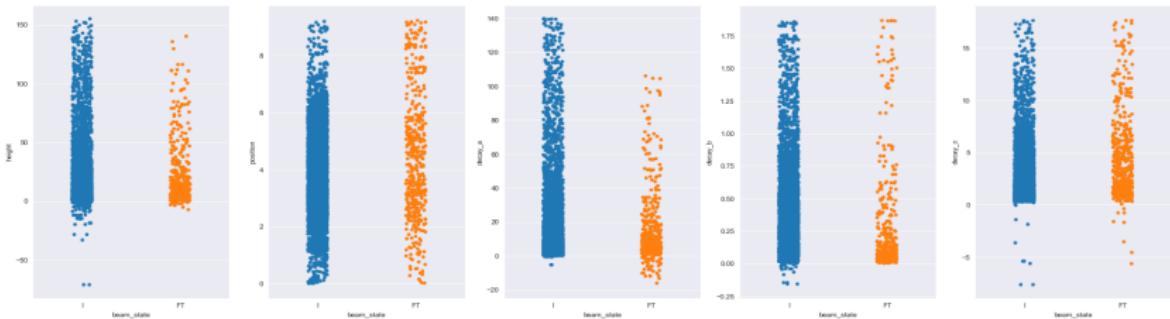


Figure: 2018 Gianmarco

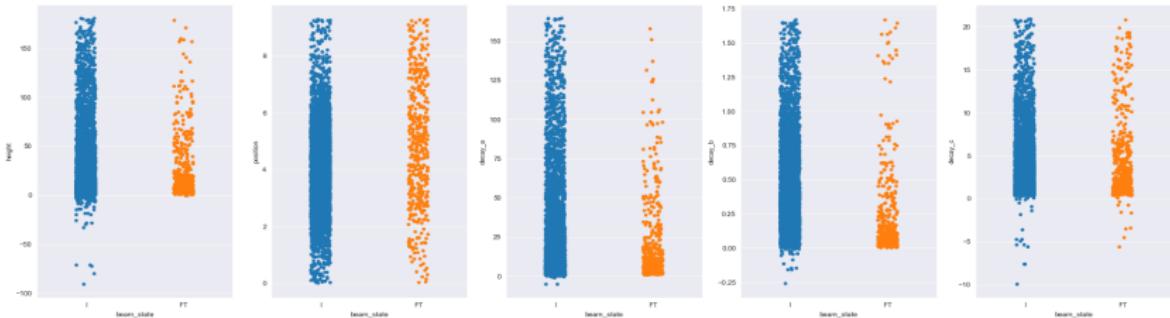


Figure: 2018 Gabriella

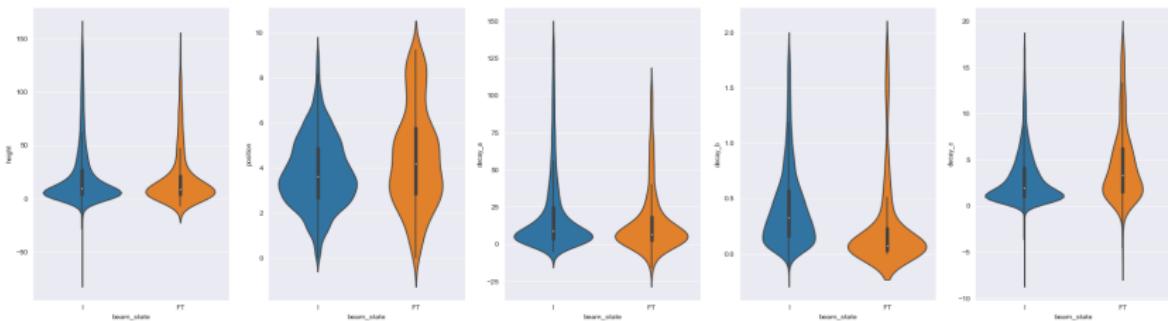


Figure: 2018 Gianmarco

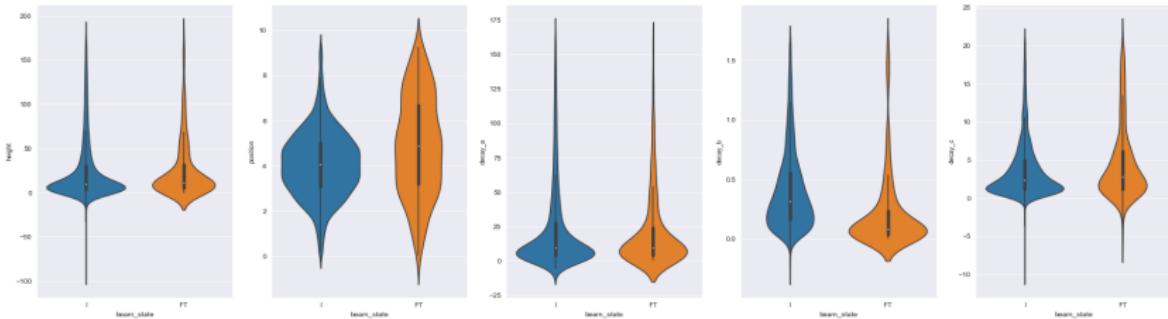


Figure: 2018 Gabriella

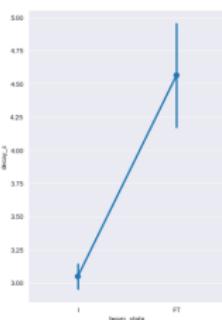
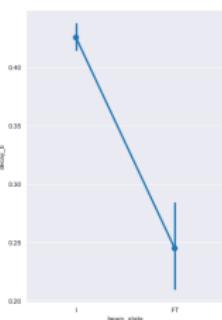
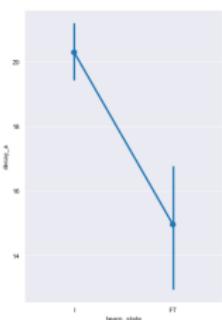
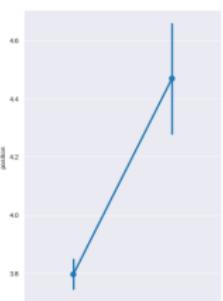
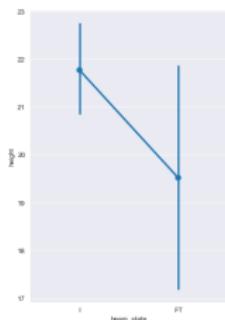


Figure: 2018 Gianmarco

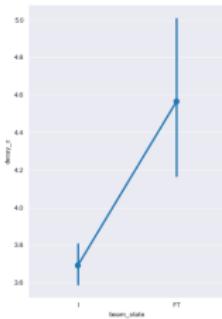
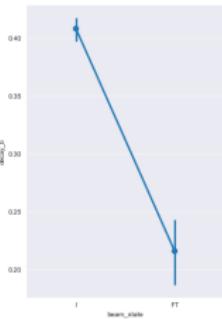
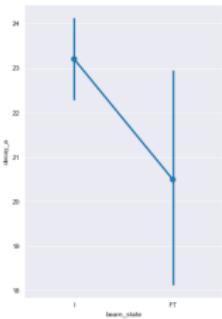
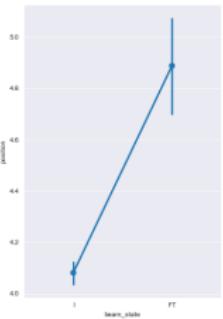


Figure: 2018 Gabriella

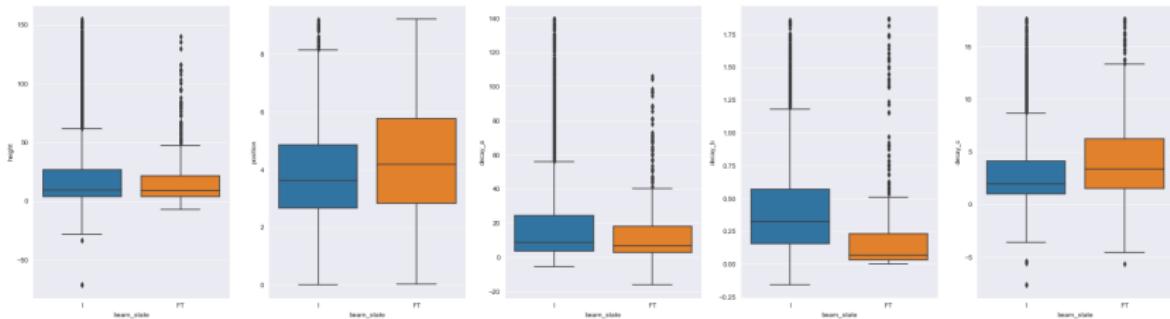


Figure: 2018 Gianmarco

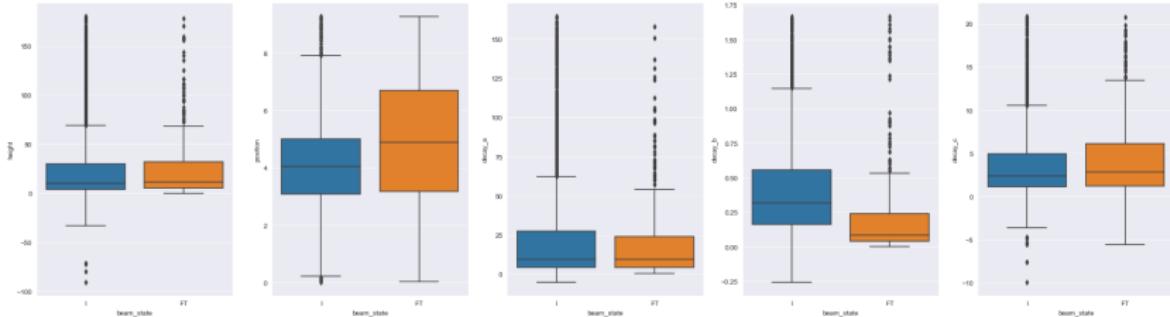


Figure: 2018 Gabriella

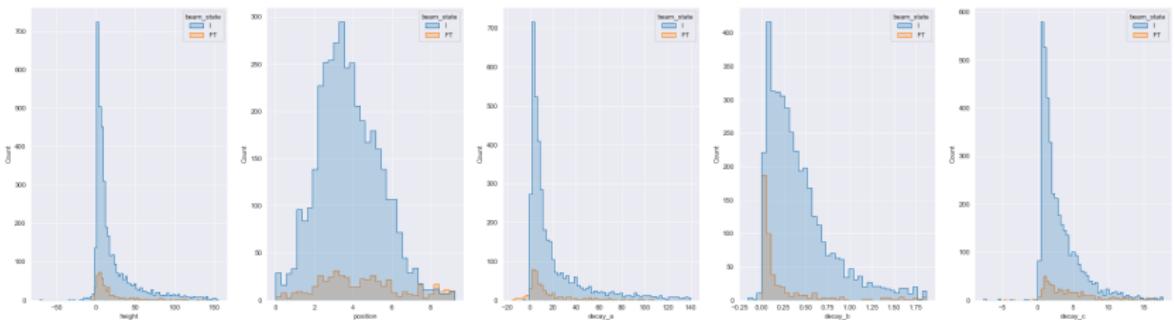


Figure: 2018 Gianmarco

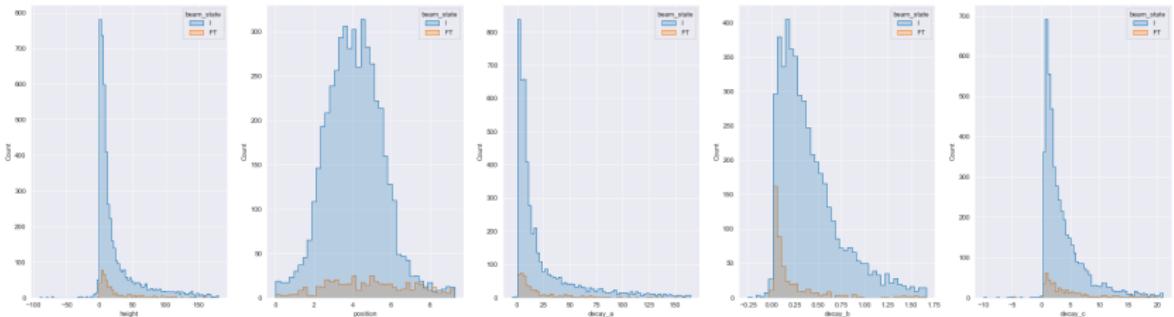


Figure: 2018 Gabriella

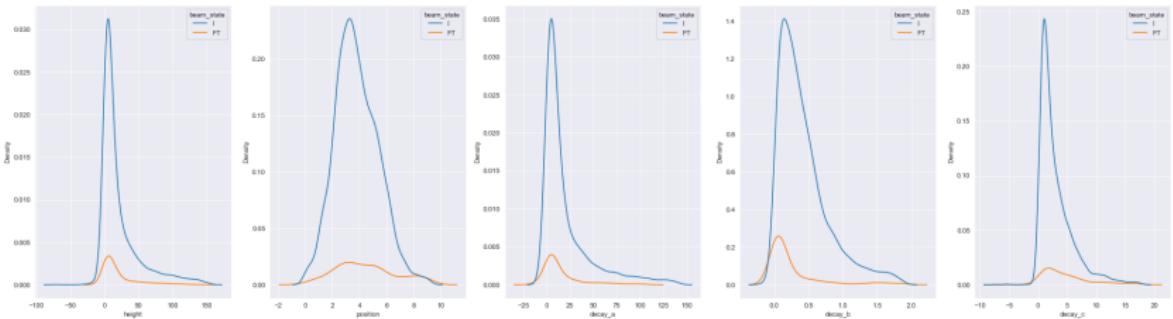


Figure: 2018 Gianmarco

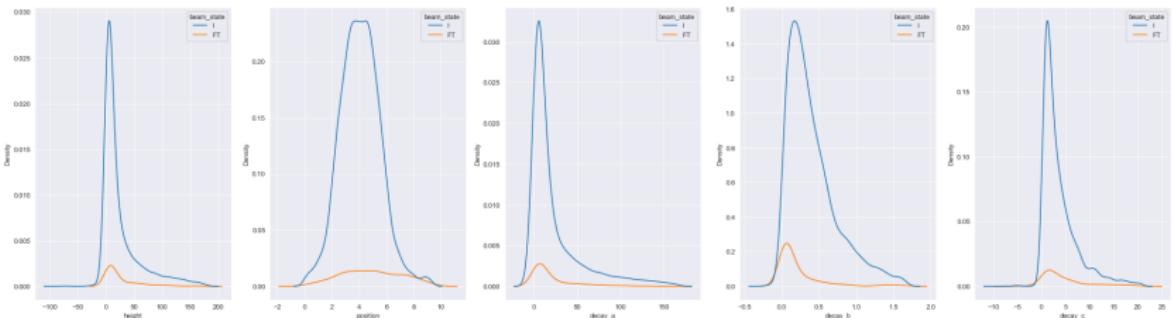


Figure: 2018 Gabriella

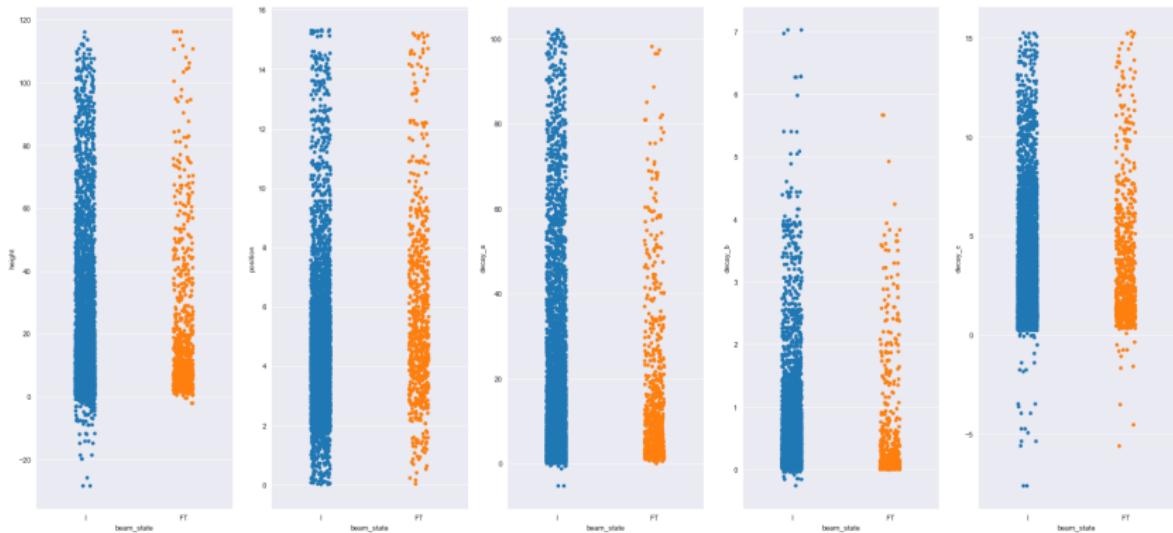


Figure: Stripplot total dataset

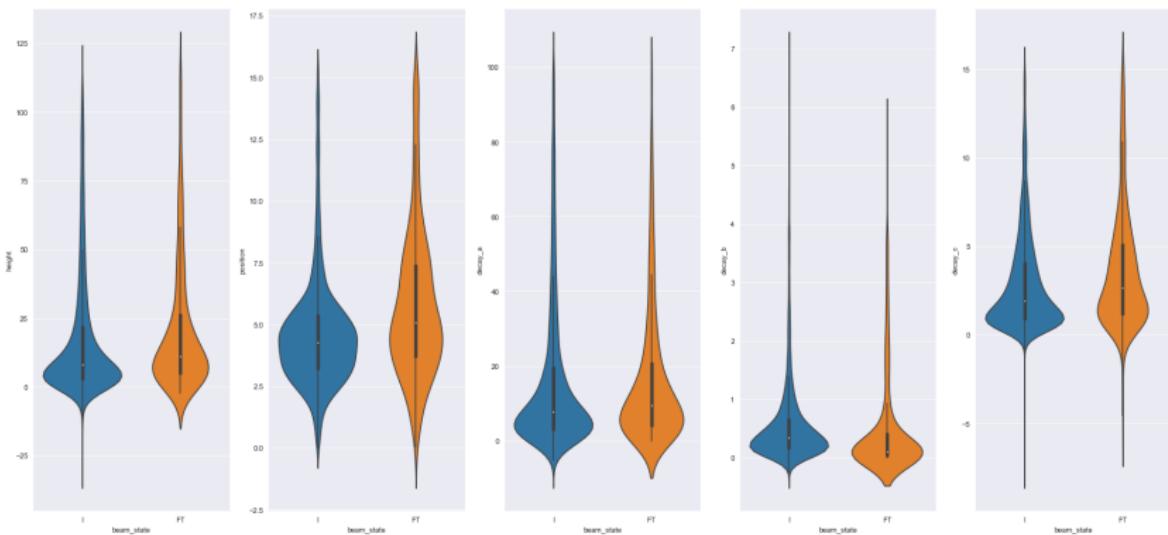


Figure: Violinplot total dataset

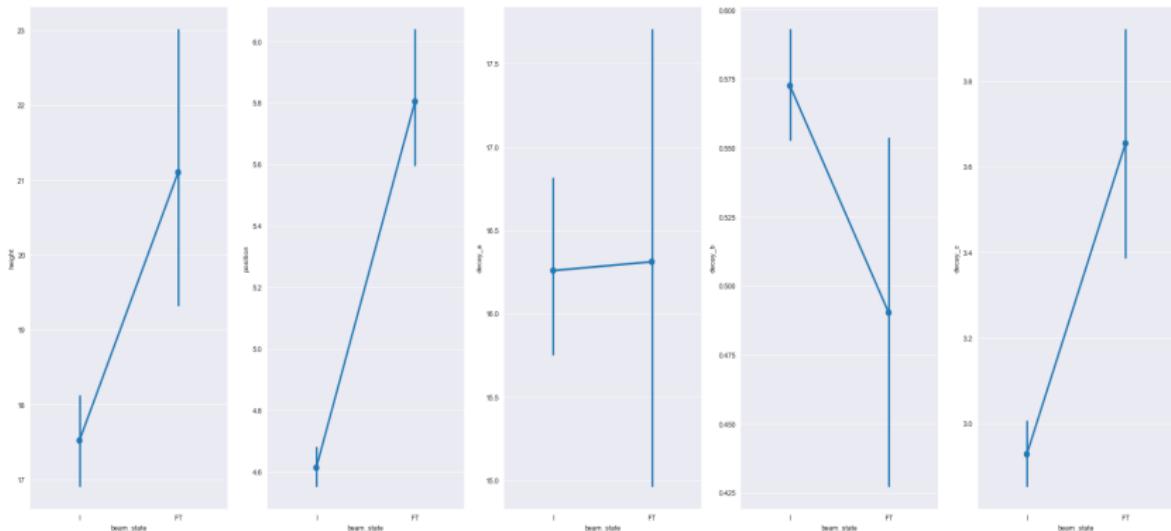


Figure: Pointplot total dataset

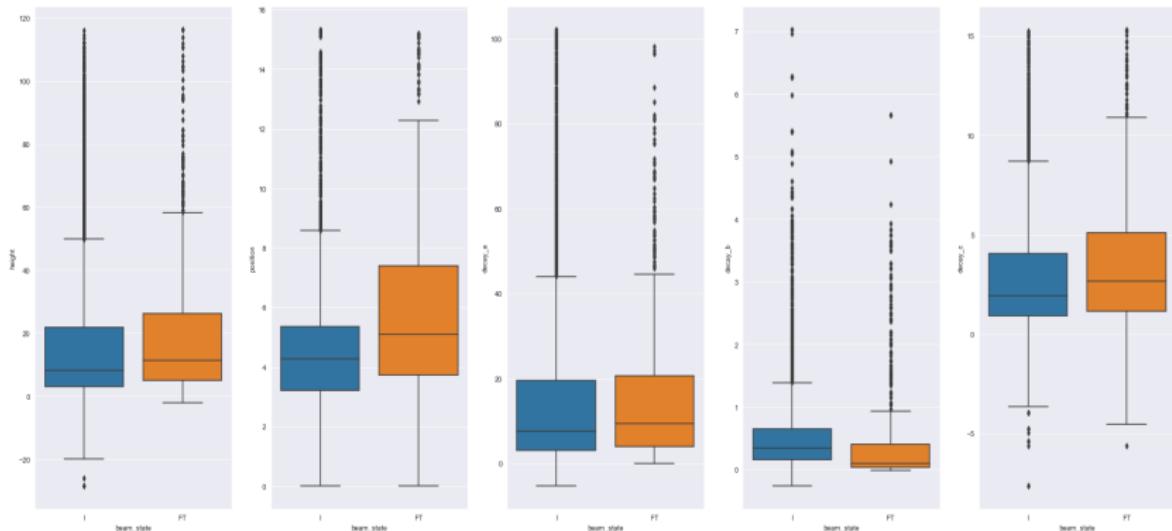


Figure: Boxplot total dataset

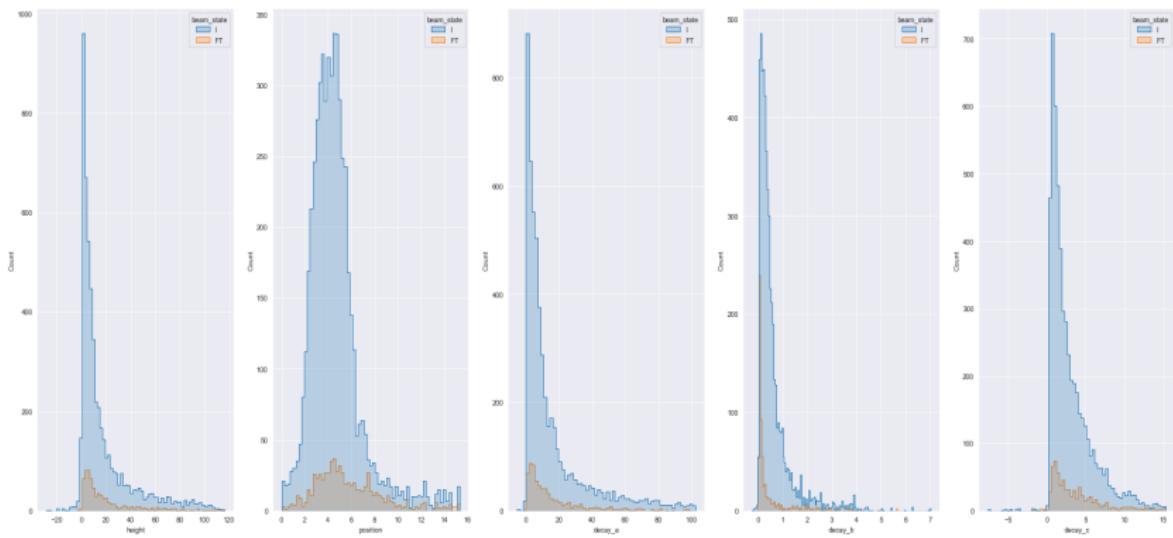


Figure: Histplot total dataset

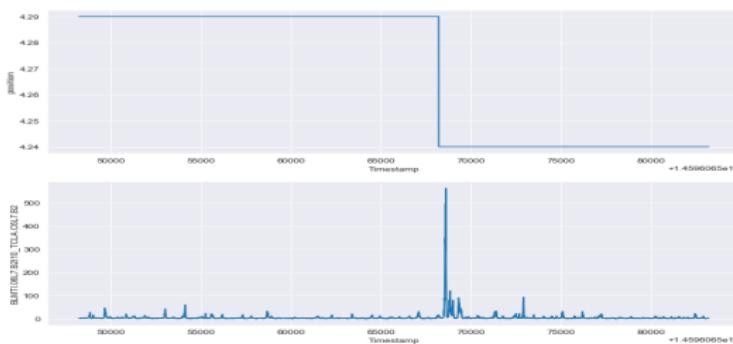


Figure: Position and Beam Losses at Injection

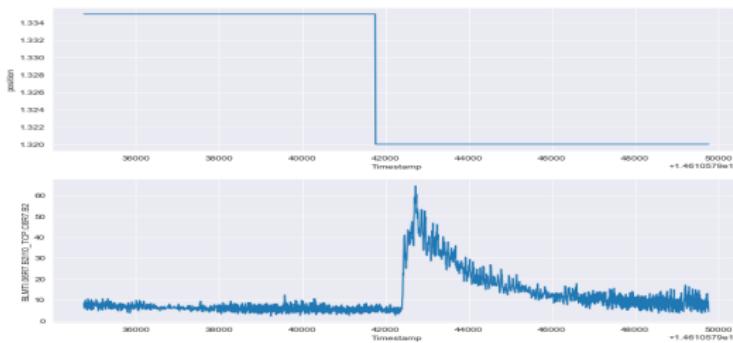


Figure: Position and Beam Losses at Flat Top

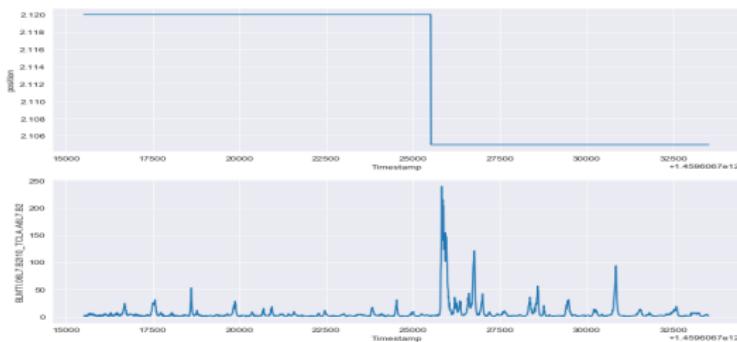


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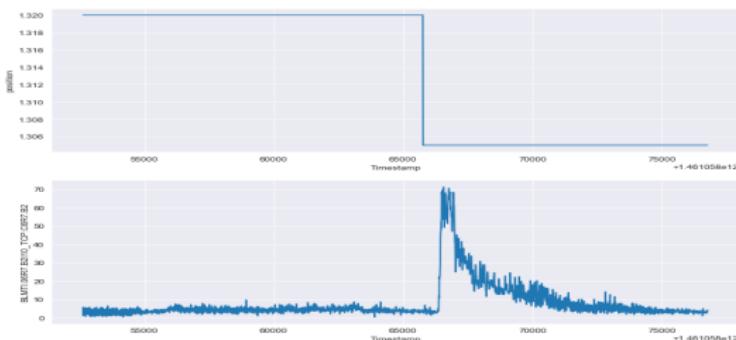


Figure: Position and Beam Losses at Flat Top