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player_mean = declined_vs_player_mean_jj.mean()

playername  groupteam  metric  value  team_mean  team_std  z_score_team  significant_deviation_team  player_mean  declined_vs_player_mean
0  PLAYER_376  Women's Basketball  Jump Height(M)  0.1405  0.266026  0.071238  -1.762062  False  0.182737  Declined (<90%)
1  PLAYER_376  Women's Basketball  Peak Propulsive Power(W)  2588.1972  3317.845869  691.965167  -1.054459  False  3107.815495  Declined (<95%)
2  PLAYER_376  Women's Basketball  Peak Velocity(M/S)  1.8761  2.414325  0.350799  -1.534286  False  2.089932  Declined (<95%)
3  PLAYER_376  Women's Basketball  Jump Height(M)  0.1361  0.266026  0.071238  -1.823827  False  0.182737  Declined (<90%)
4  PLAYER_376  Women's Basketball  Peak Propulsive Power(W)  2638.1622  3317.845869  691.965167  -0.982251  False  3107.815495  Declined (<95%)

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The flagging snapshot above is derived from “[part4 flags.py](#)”.

team_mean represents the average value of a given performance metric across all players on the team. It provides a baseline for evaluating how an individual athlete compares to their teammates, helping coaches and analysts identify whether a player is performing above, below, or in-line with team norms.

team_std refers to the standard deviation of the metric across the team, quantifying how much variation exists among players. A low standard deviation indicates consistency across the team, while a high standard deviation suggests a wide range of performance levels for that metric.

z_score_team is a standardized score that shows how far a player’s value deviates from the team average, expressed in units of standard deviation. It is calculated using the formula: $(\text{player metric value} - \text{team metric mean}) / \text{team std}$. This allows for apples-to-apples comparisons across different metrics and helps flag outliers.

significant_deviation_team is a Boolean indicator that flags whether a player’s z-score is significantly different from the team average. Typically, thresholds like ± 2 standard deviations are used to determine statistical significance, helping identify extreme performers or potential anomalies. FALSE = “less than 2 points in deviation”. YES = “greater than 2 in deviation”.

player_mean captures the athlete’s own historical average for a given metric. This personal benchmark is essential for tracking trends over time, such as improvement, regression, or recovery, and adds context beyond team-level comparisons.

declined_vs_player_mean is a qualitative flag that assesses whether the player’s current performance has dropped below their own historical average. Rate is based on threshold per metric by research