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# Glossary of Pitch F/X fields by Mike Fast

| Field           | Description   |
|-----------------|---|
| start_speed     | pitch speed, in miles per hour and in three dimensions, measured at the initial point, gun and what we are familiar with for a pitcher's "velocity" .   |
| end_speed       | pitch speed measured as it crossed the front of home plate.   |
| sz_top          | distance in feet from the ground to the top of the current batter's rulebook strike zone line at the batter's belt as he settles into the hitting position, and the PITCHf/x software   |
| sz_bot          | distance in feet from the ground to the bottom of the current batter's rulebook strike zone bottom of the zone.   |
| pfx_x           | horizontal movement, in inches, of the pitch between the release point and home plate spin-induced movement. This parameter is measured at y=40 feet regardless of the y0   |
| pfx_z           | vertical movement, in inches, of the pitch between the release point and home plate, as compared to movement. This parameter is measured at y=40 feet regardless of the y0 value.   |
| px              | left/right distance, in feet, of the pitch from the middle of the plate as it crossed home plate perspective, with distances to the right being positive and to the left being negative.  |
| pz              | height of the pitch in feet as it crossed the front of home plate.  |
| x0              | left/right distance, in feet, of the pitch, measured at the initial point.  |
| y0              | distance in feet from home plate where the PITCHf/x system is set to measure the initial point (and in a few instances 45 feet) from the plate at different times throughout the 2007 season measurements. Sportvision settled on 50 feet in the second half of 2007, and this value is the value of all other parameters measured at the release point, such as start_speed.   |
| z0              | height, in feet, of the pitch, measured at the initial point.   |
| vx0, vy0, vz0   | velocity of the pitch, in feet per second, in three dimensions, measured at the initial point   |
| ax, ay, az      | acceleration of the pitch, in feet per second per second, in three dimensions, measured at the initial point  |
| break_y         | distance in feet from home plate to the point in the pitch trajectory where the pitch crosses the front of home plate.  |
| break_angle     | angle, in degrees, from vertical to the straight line path from the release point to where the pitch crosses the front of home plate.   |
| break_length    | measurement of the greatest distance, in inches, between the trajectory of the pitch and the straight line path from the release point and the front of home plate, per the MLB Glossary illustration of this parameter.  |
| sv_id           | a date/time stamp of when the PITCHf/x tracking system first detected the pitch in the strike zone  |
| pitch_type      | most probable pitch type according to a neural net classification algorithm developed by MLBAM  |
| type_confidence | value of the weight at the classification algorithm's output node corresponding to the pitch type that the pitch is known by MLBAM to be part of the pitcher's repertoire   |
| zone            | appears to correspond to the location of the pitch based on the boxes into which the pitch falls  |
| nasty           | The "nasty" field is presumably a crude attempt to calculate how hard to hit a pitch. It indicates that they are calculating the "nasty" factor mostly based on the location of the pitch from the heart of the zone. For the fastball, MLBAM does not appear to be including a "nasty" factor. For the curveball, they appear to be rating sweeping curveballs as significantly nastier than this matters as more than a curiosity |
| cc              | comment field that appears to my[Mike Fast] highly-trained eye to be auto-generated, and  |