Cesium Features - By Category

Cadence/Error	Description
all_times_nhist_numpeaks	Number of peaks (local maxima) in histogram of all possible delta_t's.
all_times_nhist_peak1_bin	Return the (bin) index of the ith largest peak. Peaks is a list of tuples (i, x[i])
all_times_nhist_peak2_bin	Return the (bin) index of the ith largest peak. Peaks is a list of tuples (i, x[i])
all_times_nhist_peak3_bin	Return the (bin) index of the ith largest peak. Peaks is a list of tuples (i, x[i])
all_times_nhist_peak4_bin	Return the (bin) index of the ith largest peak. Peaks is a list of tuples (i, x[i])
all_times_nhist_peak_1_to_2	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_1_to_3	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_1_to_4	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_2_to_3	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_2_to_4	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_3_to_4	Compute the ratio of the values of the ith and jth largest peaks. Peaks is a
all_times_nhist_peak_val	Peak value in histogram of all possible delta_t's.
avg_double_to_single_step	Mean value of ratios (t[i+2] - t[i]) / (t[i+2] - t[i+1]).
avg_err	Mean of the error estimates.
avgt	Mean of the time values.
cad_probs_1	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_10	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_20	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_30	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_40	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_50	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_100	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_500	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_1000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_5000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_10000	Given the observed distribution of time lags *cads*, compute the probability

Cadence/Error	Description
cad_probs_50000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_100000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_500000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_1000000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_5000000	Given the observed distribution of time lags *cads*, compute the probability
cad_probs_10000000	Given the observed distribution of time lags *cads*, compute the probability
cads_avg	Mean value of *cads* (discrete difference between times).
cads_med	Median value of *cads* (discrete difference between times).
cads_std	Standard deviation of *cads* (discrete difference between times).
mean	Mean of observed values.
med_double_to_single_step	Median value of ratios (t[i+2] - t[i]) / (t[i+2] - t[i+1]).
med_err	Median of error estimates.
n_epochs	Total number of observed values.
std_double_to_single_step	Standard deviation of ratios (t[i+2] - t[i]) / (t[i+2] - t[i+1]).
std_err	Standard deviation of the error estimates.
total_time	Absolute difference between max and min of time values.

General	Description
amplitude	Half the difference between the maximum and minimum magnitude.
flux_percentile_ratio_mid20	A ratio of ((50+x) flux percentile - (50-x) flux percentile) / (95 flux pe
flux_percentile_ratio_mid35	A ratio of ((50+x) flux percentile - (50-x) flux percentile) / (95 flux pe
flux_percentile_ratio_mid50	A ratio of ((50+x) flux percentile - (50-x) flux percentile) / (95 flux pe
flux_percentile_ratio_mid65	A ratio of ((50+x) flux percentile - (50-x) flux percentile) / (95 flux pe
flux_percentile_ratio_mid80	A ratio of ((50+x) flux percentile - (50-x) flux percentile) / (95 flux pe
max_slope	Compute the largest rate of change in the observed data.
maximum	Maximum observed value.
median	Median of observed values.
median_absolute_deviation	Median absolute deviation (from the median) of the observed values
minimum	Minimum observed value.
percent_amplitude	Returns the largest distance from the median value, measured as a p
percent_beyond_1_std	Percentage of values more than 1 std. dev. from the weighted averag

General	Description
percent_close_to_median	Percentage of values within window_frac*(max(x)-min(x)) of median.
percent_difference_flux_percentile	Difference between the 95th and 5th percentiles of the data, expres
period_fast	Fits a simple sinuosidal model
qso_log_chi2_qsonu	Natural log of goodness of fit of qso-model given fixed parameters.
qso_log_chi2nuNULL_chi2nu	Natural log of expected chi2/nu for non-qso variable.
skew	Skewness of a dataset. Approximately 0 for Gaussian data.
std	Standard deviation of observed values.
stetson_j	Robust covariance statistic between pairs of observations x,y whose
stetson_k	A robust kurtosis statistic.
weighted_average	Arithmetic mean of observed values, weighted by measurement err

Lomb-Scargle (Periodic)	Description
fold2P_slope_10percentile	Get alphath percentile of slopes of period-folded model.
fold2P_slope_90percentile	Get alphath percentile of slopes of period-folded model.
freq1_amplitude1	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq1_amplitude2	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq1_amplitude3	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq1_amplitude4	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq1_freq	Get the ith frequency from a fitted Lomb-Scargle model.
freq1_lambda	Get the regularization parameter of a fitted Lomb-Scargle model.
freq1_rel_phase2	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq1_rel_phase3	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq1_rel_phase4	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq1_signif	Get the significance (in sigmas) of the first frequency from a fitted Lomb-S
freq2_amplitude1	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq2_amplitude2	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq2_amplitude3	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq2_amplitude4	Get the amplitude of the jth harmonic of the ith frequency from a fitted L
freq2_freq	Get the ith frequency from a fitted Lomb-Scargle model.
freq2_rel_phase2	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq2_rel_phase3	Get the relative phase of the jth harmonic of the ith frequency from a fitte

Lomb-Scargle (Periodic)	Description
freq2_rel_phase4	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq3_amplitude1	Get the amplitude of the jth harmonic of the ith frequency from a fitted Lo
freq3_amplitude2	Get the amplitude of the jth harmonic of the ith frequency from a fitted Lo
freq3_amplitude3	Get the amplitude of the jth harmonic of the ith frequency from a fitted Lo
freq3_amplitude4	Get the amplitude of the jth harmonic of the ith frequency from a fitted Lo
freq3_freq	Get the ith frequency from a fitted Lomb-Scargle model.
freq3_rel_phase2	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq3_rel_phase3	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq3_rel_phase4	Get the relative phase of the jth harmonic of the ith frequency from a fitte
freq_amplitude_ratio_21	Get the ratio of the amplitudes of the first harmonic for the ith and first fre
freq_amplitude_ratio_31	Get the ratio of the amplitudes of the first harmonic for the ith and first fre
freq_frequency_ratio_21	Get the ratio of the ith and first frequencies from a fitted Lomb-Scargle mo
freq_frequency_ratio_31	Get the ratio of the ith and first frequencies from a fitted Lomb-Scargle mo
freq_model_max_delta_mags	Largest value minus second largest value of fitted Lomb Scargle model.
freq_model_min_delta_mags	Second smallest value minus smallest value of fitted Lomb Scargle model.
freq_model_phi1_phi2	Ratio of distances between the second minimum and first maximum, and t
freq_n_alias	Here we check for "1-day" aliases in ASAS / Deboss sources.
freq_signif_ratio_21	Get the ratio of the significances (in sigmas) of the ith and first frequencies
freq_signif_ratio_31	Get the ratio of the significances (in sigmas) of the ith and first frequencies
freq_varrat	Get the fraction of the variance explained by the first frequency of a fitted
freq_y_offset	Get the y-intercept of a fitted Lomb-Scargle model.
linear_trend	Get the linear trend of a fitted Lomb-Scargle model.
medperc90_2p_p	Get ratio of 90th percentiles of residuals for data folded by twice the estin
p2p_scatter_2praw	Get ratio of variability (sum of squared differences of consecutive values) o
p2p_scatter_over_mad	Get ratio of variability of folded and unfolded models.
p2p_scatter_pfold_over_mad	Get ratio of median of period-folded data over median absolute deviation
p2p_ssqr_diff_over_var	Get sum of squared differences of consecutive values as a fraction of the v
scatter_res_raw	From arXiv 1101_2406v1 Dubath 20110112 paper.