Documentation of QIBA PDF evaluation tool (underdevelopment)

* The choosing of evaluation standards.

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* (Graphics)Scatter plot to show the relationship of the calculated values with reference values
* (Graphics)Box plot to show the distribution of calculated value in each patch
* (Statistics)Student’s t-test. Mainly for the decision of whether a population is normally distributed.
  + Maybe not so necessary if the calculated values are believed to follow normal distribution. On the other hand, if they do not follow normal distribution, how to evaluate the calculated result then?
* (Statistics)Mann-Whitney-U test. It is a [nonparametric](http://en.wikipedia.org/wiki/Nonparametric_statistics) [test](http://en.wikipedia.org/wiki/Statistical_hypothesis_test) of the [null hypothesis](http://en.wikipedia.org/wiki/Null_hypothesis) that two populations are the same against an [alternative hypothesis](http://en.wikipedia.org/wiki/Alternative_hypothesis), especially that a particular population tends to have larger values than the other.
  + Maybe not so useful here? Because there’s no need to simply decide whether two group are the same or not, but which is better compared to the reference values in some standard.
* Person correlation coefficient is a value to measure the linear correlation between two groups of values, valued between -1 and 1.
  + Can be used to evaluate the correlation between calculated and reference value sets
* Spearman’s rank correlation coefficient. It assesses how well the relationship between two variables can be described with monotonic function.
  + This maybe not so useful. Because it’ll be too complicated with they so detailed processes. If linear regression is applied, then this is not going to be used.
* Analysis of covariance. It measures how much two variables change together and how strong the relationship is between them.
  + ANCOVA can be used to evaluate how much the performance(e.g. deviation of a patch) varies according to the parameters, i.e. Ktrans and Ve.(This might be meaningful to direct the user of a certain model to choose the reasonable parameters.)
* Linear regression.
  + Can be used to abstract the artificial slope and intercept of the model, with which the calculated data can be uniformed so that the evaluations have the same baseline.
  + The R value can be used to assess how well the data align linearly.
* Analysis of variance. It is used to analyze the differences between group means and their associated procedures.