

# 1 Program 3dKruskalWallis

## 1.1 Purpose

Program 3dKruskalWallis was developed for comparing multiple treatments. This program performs the nonparametric Kruskal-Wallis test for whether any of  $s$  treatments are different. Output includes the index of the best (highest ranking) treatment, as well as the Kruskal-Wallis chi-square statistic, for each voxel.

The Kruskal-Wallis test is the nonparametric counterpart of the one-way ANOVA. As such, program 3dKruskalWallis roughly corresponds to program 3dANOVA, which may be used to compare multiple treatments, assuming that the underlying populations are normally distributed with equal variances.

## 1.2 Further Details

For further details, see Section 3 of *Nonparametric Statistical Analysis of FMRI Data*, contained in file Nonparametric.ps.