

This work is devoted to the Wilcoxon rank-sum test in the presence of ties. In this work, asymptotic distribution of the Wilcoxon test statistic in the presence of ties is derived using well-known results about U-statistics. With the aid of this result, a corrected test statistic for data containing ties is proposed. Furthermore, the thesis examines the relation between the derived correction and conditional variance of the test statistic (and conditional expectation). Finally, by means of simulation, the effect of the derived correction on the actual significance level is examined as the number of tied observations increases.