**Supplementary Material**

ANOVA tables that show the *p* value of several combinations of variables.



Figure 1.ANOVA analysis for the impeller-power relationship



Figure 2.ANOVA analysis for the impeller-ct relationship



Figure 3.ANOVA analysis for the ct-sd relationship

It could be also included data about all the interactions. In all these cases, the response surface was not concave and therefore, the optimization produced no a unique solution.



Figure 4.ANOVA analysis for the impeller, ct and N relationship



Figure 5.ANOVA analysis for the impeller, ct, sd and N relationship



Figure 5.ANOVA analysis for the impeller, power, ct, sd and N relationship