

Finite point processes having a density with respect to the Poisson process are investigated. We are interested in special functionals called U-statistics. The mean value of such a functional is obtained as a product of mean values of functionals of the Poisson point process. Using difference operators and kernels of an U-statistic, we can derive a general formula for the mean value of the functional, in which the conditional intensity of a point process is used. The calculation of mean values of selected U-statistics of the Strauss process shows the application of the formula. The assumptions of the formula are verified via characteristics of the Poisson process. At the end, the results of numerical calculations of mean values based on simulations of the Strauss process are presented.