Measuring discontinuities of functions.

The discontinuities of functions in mathematical analysis are unpleasant facts for many instances. We usually prevent these difficulties by simply avoiding points where the function fails to be continuous. But some discontinuities could be thought of to be better than others. Here we will talk about ways of measuring the discontinuity of a function using a number from [0,1] called “continuity defect of the function”. We will then go on to extending this concept to cases of uniform (dis)continuities. (Received September 10, 2010)