

**THE M-TILE DEVIATION: A NEW CLASS OF MEASURES OF DISPERSION**

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**ABSTRACT**

A new class of measures of dispersion is introduced, called the m-tile deviation (MD). The quartile deviation is a special case of the MD and the mean deviation using the median equals a special case of the MD. The breakdown points of the MD are derived and compared to the breakdown points of the standard deviation and the median absolute deviation. In addition, the property of the stability of a measure is also used to compare the measures under discussion. The ease of computing measures will also be discussed. M-tile deviations are flexible, as their breakdown points and stability are functions of m. Hence a user may choose the value of m that best suits their application.

Keywords: *M-tile deviation, median absolute deviation*