Modelling Air Pollution Data Using the Skew-Normal Distribution

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Abstract: Particulate matter with an aerodynamic equivalent diameter of up 10 micron is commonly referred to as PM_{10} and its harmful effects on human health are well known. In Italy there exists a monitoring network collecting several data related to PM_{10}. We shall model these data using the skew-normal distribution, a generalization of the normal one allowing for greater shape flexibility. Adequacy of the model is checked through several goodness-of-fit tests based on the empirical distribution function

Keywords: Goodness-of-fit; PM_{10}; Skew-normal distribution.