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## A statistical analysis of sounding derived indices and parameters for extreme and non-extreme thunderstorm events over Cyprus

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**Abstract.** The main purpose of this study is to provide a simple statistical analysis of several stability indices and parameters for extreme and non-extreme thunderstorm events during the period 1997 to 2001 in Cyprus. For this study, radiosonde data from Athalassa station (35°1' N, 33°4' E) were analyzed during the aforementioned period. The stability indices and parameters set under study are the K index, the Total Totals (TT) index, the Convective Available Potential Energy related parameters such as Convective Available Potential Energy (CAPE), Downdraft CAPE (DCAPE) and the Convective Inhibition (CIN), the Vorticity Generator Parameter (VGP), the Bulk Richardson Number (BRN), the BRN Shear and the Storm Relative Helicity (SRH). An event is categorized as extreme, if primarily, CAPE was non zero and secondary, if values of both the K and the TotalTotals (TT) indices exceeded 26.9 and 50, respectively. The cases with positive CAPE but lower values of the other indices, were identified as non-extreme. By calculating the median, the lower and upper limits, as well as the lower and upper quartiles of the values of these indices, the main characteristics of their distribution were determined.

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