

عنوان مقاله:

Harmattan Dust Characteristics using Fourier Transform-Infrared and Gas Chromatography-Mass Spectrometry
Method of Selected Sub-Saharan Region in African Stations

محل انتشار:

فصلنامه انرژی و محیط زیست ایران (ایرانیکا), دوره 15, شماره 1 (سال: 1403)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Harmattan dust has been identified as a discrete mass of solid earth crust hanging in the air for an extended period of time. It has been noted that less studies have been conducted in Nigeria to determine the functional groups contained in harmattan dust. The goal of this study was to figure out what functional groups and chemicals that were present in the dust. Usmanu Danfodiyo University, Sokoto (12°N , 13.8°E), Kebbi State University of Science and Technology, Aleiro (12.307°N , 4.4955°E), Federal University of Agriculture, Zuru (11.4058°N , 5.2400°E), and Waziri Umaru Federal Polytechnic, Birnin Kebbi (12.4601°N , 4.4955°E), were the selected stations used in this study. The suspended Harmattan dust samples were obtained in glass petri plates using a direct deposition approach. Fourier Transform Infrared Spectroscopy (FTIR) and Gas Chromatograph-Mass Spectrometry (GC-MS) were used to examine the samples collected. The results show that eleven functional groups were present in the samples, including $=\text{CH-H}$, $-\text{CH}_3$, N-H , $\text{C}=\text{C}$, $=\text{C-H}$, C-H , O-H , C-N , $\text{C}=\text{O}$, C-O-C , and $-\text{CH}_3$. According to GC-MS, the component (γ -methoxy ethyl) had the greatest quality value (Q-Value) of 83 , area percentage corresponding to time rating (RT) of 13.647 , and CAS $018173-63-2$ in the dust samples. It is therefore recommended that the Federal Republic of Nigeria's government increase funding for the research centers so that researchers can study all cities in the country and better observe the functional group metals present in the harmattan dust.

کلمات کلیدی:

Characterization, Harmattan Dust, Sub-Saharan region

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