



## **Possible influence of Saharan dust on surface $^7\text{Be}$ concentrations as measured by CTBTO global monitoring system**

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Beryllium-7 is mainly produced in the upper atmosphere by spallation reaction of oxygen and nitrogen nuclides. The amount of  $^7\text{Be}$  that reaches the surface depends on the production rate which is a function of latitude, altitude and solar activity and atmospheric transport.  $^7\text{Be}$  attaches predominantly to aerosol particles in the submicron size range and is removed from the atmosphere by dry and wet depositions. Furthermore, recent studies report a dependency between  $^7\text{Be}$  and Saharan dust.

Data collected by the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)'s International Monitoring System (IMS) during the 2009-2015 period was used to study in more details the relationship between Saharan dust and surface  $^7\text{Be}$  concentrations. Three IMS stations under the regular influence of Saharan dust were selected to this end: Nouakchott (Mauritania), Kuwait City (Kuwait), Panama City (Panama).

The CTBTO runs a sophisticated Lagrangian Atmospheric Transport Modelling (ATM) system to relate IMS detections to possible sources. General atmospheric and physics considerations along with ATM results will be used to explain the different characteristics of surface  $^7\text{Be}$  concentrations observed at the three locations.