



Investigation of the stochastic nature of temperature and humidity for energy management

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Atmospheric temperature and dew point, in addition to their role in atmospheric processes, influence the management of energy systems since they highly affect the energy demand and production. Both temperature and humidity depend on the climate conditions and geographical location. In this context, we analyze numerous of observations around the globe and we investigate the long-term behaviour and periodicities of the temperature and humidity processes. Also, we present and apply a parsimonious stochastic double-cyclostationary model for these processes to an island in the Aegean Sea and investigate their link to energy management.

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