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A novel dehumidification technique using electric field

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Abstract:

A completely new concept of dehumidification is presented. The polar nature of the electronic bond structure between oxygen and hydrogen atoms in a water molecule is utilized to attract them using an electric field. It is possible to single out and remove the water molecules from the air inside a room to make the room dehumidified. A theoretical formulation is developed and a simple experiment was performed to validate the theory. Unlike the conventional dehumidification process, this process does not involve any condensation of the moisture and hence requires a very small amount of power. The technique can also be very useful for air-conditioning as well.

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