

Wind Speed Augmentation Model for Empty Conical Diffusers for Use in Diffuser Augmented Wind Turbines

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Abstract

Diffusers have been used to augment the wind speed in diffuser augmented wind turbines. However, there is no known method to estimate the wind speed augmentation by these diffusers. This study presents a mathematical model that estimates the wind speed augmentation by empty conical diffusers for use in diffuser augmented wind turbines (DAWT). The model is used by DAWT wind energy systems engineers in optimizing the power output of the DAWT. The model is based on the diffuser length