A simple atmospheric boundary layer model applied to large eddy simulations of wind turbine wakes

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A simple model for including the influence of the atmospheric boundary layer in connection with large eddy simulations of wind turbine wakes is presented and validated by comparing computed results with measurements as well as with direct numerical simulations. The model is based on an immersed boundary type technique where volume forces are used to introduce wind shear and atmospheric turbulence. The application of the model for wake studies is demonstrated by combining it with the actuator line method, and predictions are compared with field measurements. Copyright © 2013 John Wiley & Sons, Ltd.

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