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Modelling of wind turbine wake using large eddy simulation

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Highlights

- Four well-known semi-empirical wake models are assessed and compared with the well-resolved validated Large Eddy Simulation model of a wind turbine.
- It is found that the models proposed by Jensen and Frandsen can provide more accurate results in near-wake region in comparison with Larsen models.
- The velocity deficit and wake diameter in far-wake is better predicted by Larsen models.
- In order to increase the accuracy while maintaining the computation cost to minimum, it is suggested to use a combination of the models based on their strength in predicting desirable factors in different regions.

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