

Calculation the Wind Speed by Atmospheric Boundary Layer Simulations

TAG-04 – Cigre

Stockholm, May 2010

Do Nascimento, C.A.M.

ABL Simulations

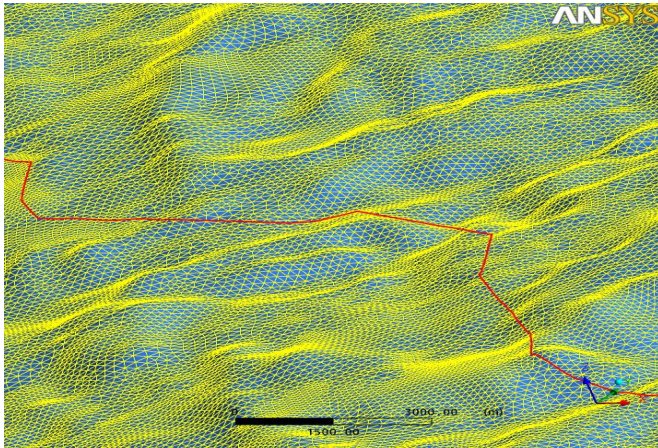


Fig. 2. Discretized domain with part of the overhead line.

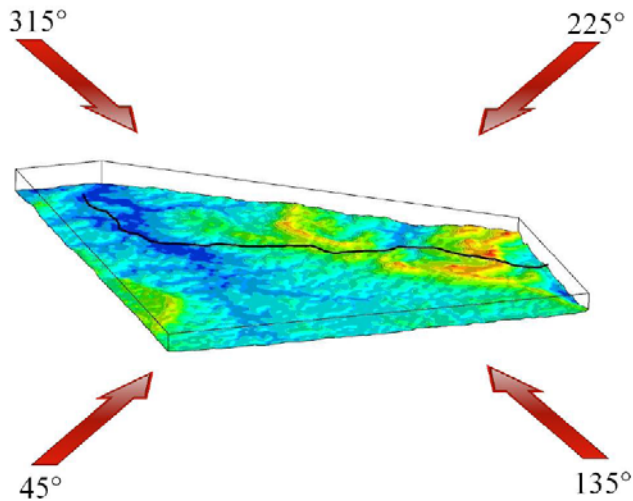


Fig. 1. ABL simulation for different directions of wind speed.

Span	Incidence Angle of Wind Speed at the Conductor (Fig. 1) (°)	Lowest Numerical Wind Speed Result (m/s)
19-20	45	3.8
19-20	135	1.4
19-20	225	1.1
19-20	315	4.8
20-21	45	3.5
20-21	135	1.2
20-21	225	0.9
20-21	315	4.1
21-22	45	3.7
21-22	135	1.2
21-22	225	1.0
21-22	315	3.8

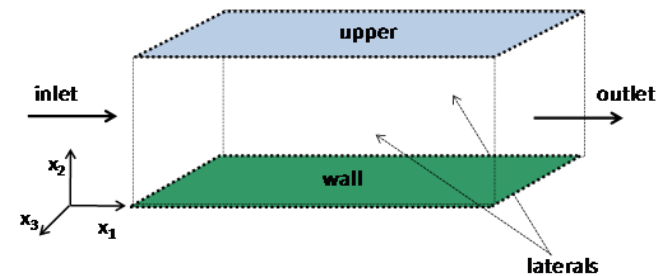


Fig. 5 Illustration of boundary conditons.

ABL Simulations

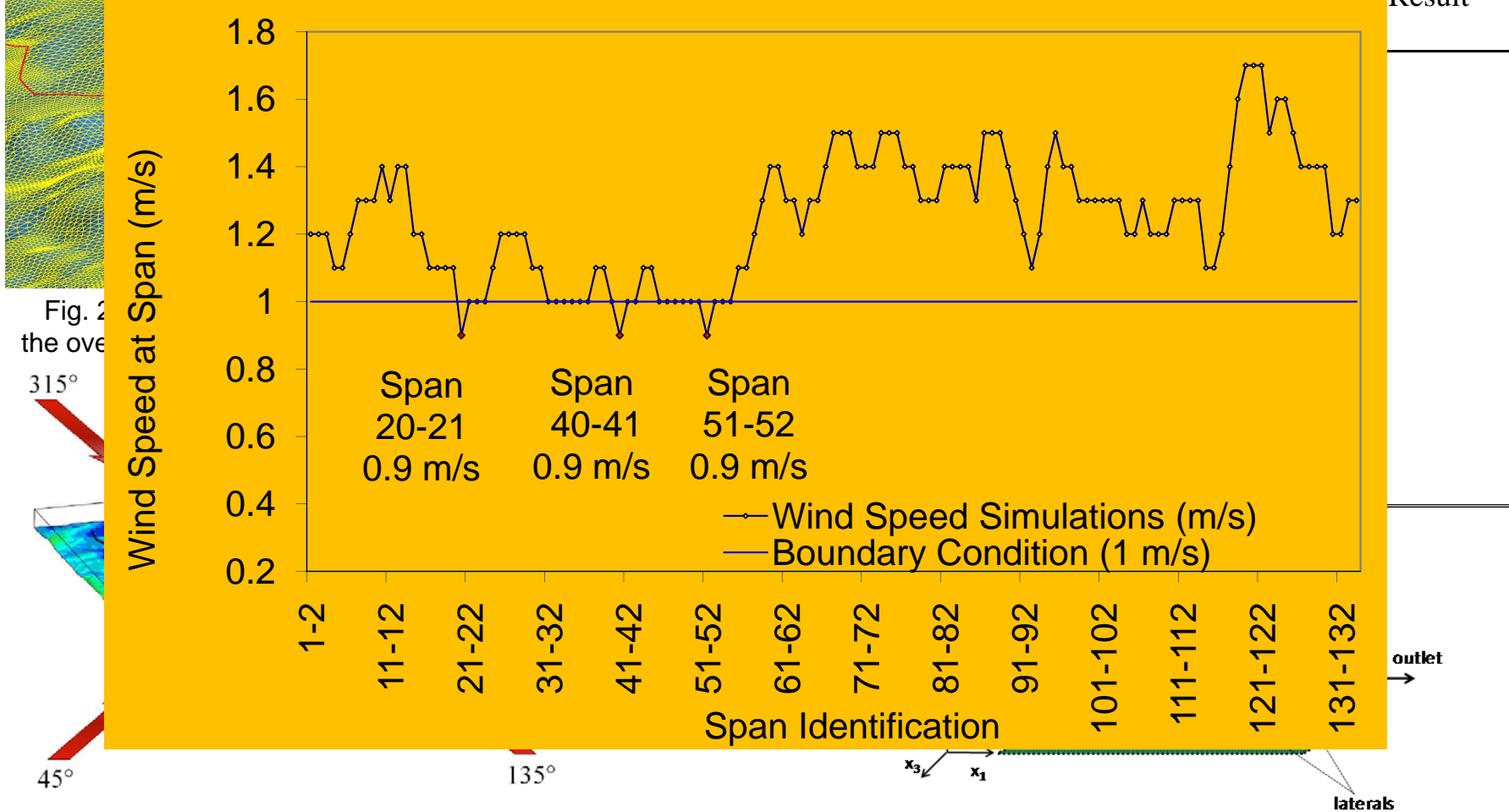
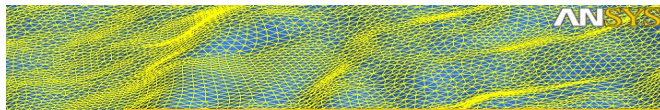


Fig. 2 the over

315°
45°
135°

Fig. 1. ABL simulation for different directions of wind speed.

Incidence Angle of Wind
Span Speed at the Conductor
Lowest Numerical Wind Speed Result

Fig. 5 Illustration of boundary conditons.