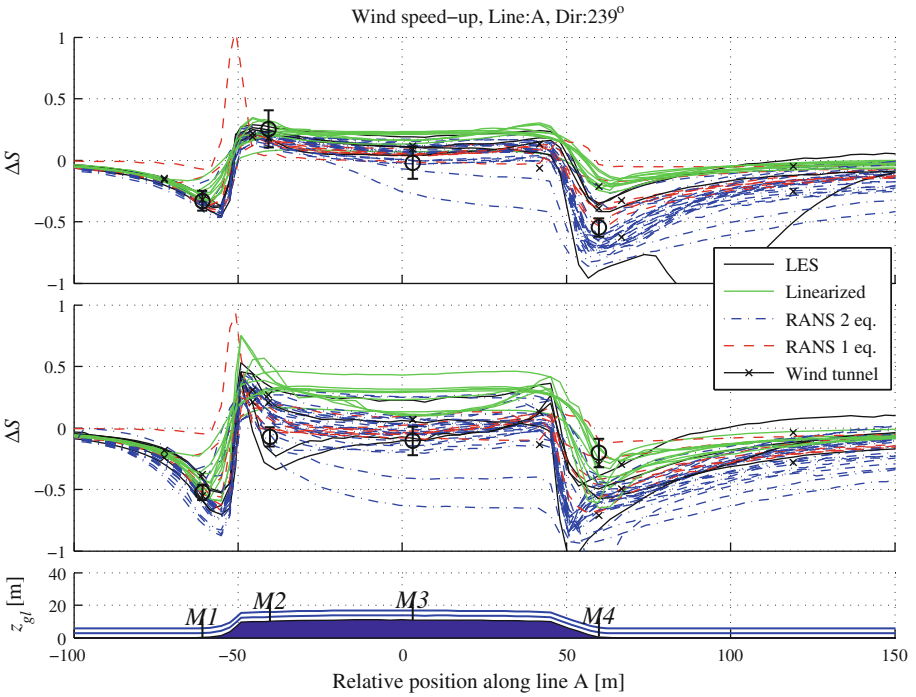

Fig. 4 Measured and simulated speed-up along line A for simulation case 3 as a function of relative position (see Table 1). *Top* $z_{\text{agl}} = 5$ m, *bottom* $z_{\text{agl}} = 2$ m. See the text for explanation of *symbols*

One could argue that the scatter of the simulation results is significant. In several regions of the hill, speed-up estimations range between 0 and −1. One should, however, remember that the simulation results are obtained from a large range of completely different microscale models. In addition, simulations were performed blindly, and modellers were not allowed to correct their submitted results. If a few outliers are removed, the scatter within each model type is greatly reduced. In this case, consistent and reproducible results from any of the five model types appear possible to obtain. When comparing with measurements, one should remember that inaccuracies in anemometer position affect the speed-up plots. In Fig. 4, the measurements at M4 are plotted as if they were made at $z_{\text{agl}} = 2$ m and $z_{\text{agl}} = 5$ m. As seen in Table A2 (see Appendix), this result differs greatly from the case for this mast ($z_{\text{agl}} \approx 1.4$ m and $z_{\text{agl}} \approx 4.4$ m). When examining speed-up profiles (below), the individual anemometers on a particular mast may not be located at the exact horizontal position, and inaccurate mast positioning is also a possibility. Such measuring inaccuracies can cause the simulation results in the figures to appear worse or, perhaps, better.

Speed-up profiles at masts M1, M2, M3 and M4 are shown in Figs. 5 and 6. Again, it is evident that all models, with a few exceptions, were able to capture the speed-down at M1. At the escarpment edge (M2), all models captured the speed-up above $z_{\text{agl}} = 5$ m. Below this height, the linearized models inaccurately predicted the speed-up, whereas the two-equation models and the LES models more accurately captured the low wind speeds measured near the ground. As described by Berg et al. (2011), mast M2 was positioned on the edge of a small zone of detached flow with intermittent negative wind velocity. The description for this *gusty* flow can only be accurately categorized by models able to resolve turbulence.