A Method to Detect Strong Wind Sections Along Railway Lines by Using Numerical Simulations

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Anemometers are arranged in the operation sections of railway lines to prevent overturning accidents of trains by strong winds. Safety against strong winds in the operation sections can be improved by setting up anemometers in the locations where wind velocities frequently exceed the critical wind speed of overturning. Therefore, we need to estimate expected value of occurring wind velocities along railway lines for optimal anemometer arrangements. This paper introduces a method to estimate expected value of occurring wind velocities near the surface of the ground by using numerical simulations and topographical factor analysis.