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Sommario/riassunto	This work has studied the crosswind stability of vehicles under nonstationary wind excitation in various scenarios. Railway vehicles running on curved and straight track with varying vehicle speed are studied. Road vehicles are classified into different categories. For each vehicle class, a corresponding worst-case vehicle model has been built. As the wind excitation on the vehicle is a stochastic process, a risk analysis has to be carried out and failure probabilities are computed and analyzed.