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#### **4. Conclusion**

(1) Pedestrian load and its distribution have enormous influence on the dynamic characteristic of long-span suspension footbridge. The critical pedestrian density, which influences the dynamic property that long-span suspension footbridge.

(2) The longitudinal correlation for long-span suspension foot bridge, not meet “the strip assumption”, that is, the vortexes get balanced one another in the longitudinal direction, and then vortex-induced vibration never occurs.

(3) For long-span suspension footbridge, pedestrian changes the shape of cross-section a lot, and forms the main part of bridge cross-section.

(4) Handrail with high porous ratio makes the thin structure with high ventilation ratio (such as long-span suspension footbridge) avoid the occurrence of vortex-induced vibration.

(5) Vortex-induced vibration is sensitive to the type of handrail. For the truss beam of long-span suspension footbridge, handrail of grid type is preferred, but fully-closed handrail is proscribed.

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