

Geodetic Monitoring Cable–Stayed Bridges Using GNSS

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SUMMARY

Bridges are important transport junctions and play a big role in the socio-economic development of cities and regions. This also applies to cable-stayed bridges, which are designed for a variety of transportation and everyday traffic. It is known that to ensure the safety of engineering structures, particularly bridges, can monitoring as a continuous process of observing and recording the parameters of the object. Bridges in the course of their operation experience a different kind of load from moving traffic, wind, high or low temperatures, etc. So important is the process of continuous monitoring and recording of mixing in bridge structures. Today there are a variety of devices and systems, of which we highlighted the global navigation satellite system (GNSS). To date, they have become an alternative to the classical methods of surveying accuracy, efficiency and reliability. The great advantage of GNSS monitoring is its continuous character in real time, as well as detailed signs long-term work. Several GNSS receivers installed on the observed structures, significantly increase the reliability of the results. However, there are numerous sources of systematic measurement errors or displacements that affect the performance of the GNSS. However, the focus of this research is to show the differences between the use of Neural Network, Least square and chebyshev in GNSS data processing. The results of the neural networks give performance better than the results from others methods