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FEA simulation of synchronous belt: Performance evaluation methods of key parts in pitch system**Zhang Jing Xuan**

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Synchronous belt is commonly used in the pitch system for wind turbines. It is a flexible pitch method and has a lot of advantages compared with hydraulic pitch system. Engineering methods is usually used to calculate the strength of synchronous belt, this is also the usual method in other industry. The disadvantage of this engineering method is that a lot of bearing capacity of the belt is wasted due to the large safety margin required by the methods. To fully utilize the capacity of synchronous belt, a more accuracy FEA (finite element analysis) method is developed to evaluate the strength of synchronous belt and estimate the remaining life time of belt on specific site conditions. This method could also be used in other industries with heavy and alternating loads.

Biography

Zhang Jing Xuan graduated from Tsinghua University in year 2005, and has 10+ years Finite Element Analysis (FEA) experience in Aviation, Automobile and Windturbine area. Focus on simulation methods study and solution of structural problems.

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