Record Nr. UNINA9910476900003321 Autore Struve Achim **Titolo** Analysis of a Rotatable Wind Turbine Tower by means of Aero-Servo-**Elastic Load Simulations** Pubbl/distr/stampa Karlsruhe, : KIT Scientific Publishing, 2021 **ISBN** 1000123255 Descrizione fisica 1 electronic resource (340 p.) Berichte zum Stahl- und Leichtbau Collana Soggetti Civil engineering, surveying & building Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Sommario/riassunto This work highlights how the costs and CO2-emissions of land-based wind turbines can be reduced by means of an innovative and material efficient support structure concept. Thereby the yaw system is placed at the tower base, allowing the whole wind turbine tower to be rotated. The potential of a rotatable inclined lattice tower concept was analysed by means of aero-servo-elastic load simulations in the FAST environment. A balance between different cost aspects revealed significant savings.