**Solar Panel Supporting Structure In Wind Effect**

**ABSTRACT**

The use of renewable energy resources is increasing rapidly. Following this trend, the implementation of large area solar arrays is considered to be a essential. Many design approaches of the supporting structures have been presented in order to achieve the maximum efficiency. They are loaded mainly by aerodynamic pressures. International governence as well as the competition between industries define that they must withstand the enormous loads that result from large air acceleration. Moreover, they must have a life assurance of more than 20 yrs. Optimization plays very key role in product design and prevent un-necessary inventory satisfying the functional needs. But optimization with apt design helps to built efficient products in the everyday competing market. Stress analysis plays important role in optimizing the design. Due to the advance in computer based finite element software’s design process is made simple by easier simulation methods fast replacing prototype built up and testing. In the current work, a solar panel aiding structure is designed to take rotational loads for for safe operation. So the design should consider the loads coming on the structure for rotation along with inertia effect of the rotating members. The mechanism should withstand the aerodynamic loads, inertia loads and rotation loads along with frictional loads. The model should look at aerodynamic circumstances for load calculations and design should satisfy all the functional requirements