

Wind fields directly affect the performance of an aircraft in flight. With advancements in meteorology, air patterns and wind fields can be more accurately predicted. Through an understanding of how the behavior of these wind fields change the time needed to travel a set flight path, the duration of a set flight path can be shortened. In this presentation, I discuss the flight of an aircraft in Irrotational Wind Field. This study analyzes the effect of non-uniform linear wind speed on flight in a closed loop as a representation of a point moving in a vector field. Using previously established simplifications and representations of this situation in a fixed wind field, the basis of study is expanded to irrotational wind fields of changing magnitude. This concept is also applied to other representations including turbine blades.