

## عنوان مقاله:

An aerodynamic investigation of a Wingsuit

## محل انتشار:

دومین کنفرانس بین المللی فناوری های نوآورانه در زمینه علوم، مهندسی و تکنولوژی (سال: 1399)

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## خلاصه مقاله:

Over the past decades, Wingsuits have been used by amateur and professional skydivers to flight through the air. Although many studies have been done on airplanes in the many articles, not many on Wingsuit. Especially, aerodynamic analysis of Wingsuits has been a new subject in academic societies. In the present work aerodynamics of Wingsuit is analyzed by the computational fluid dynamics method. Also, a short study is done on suitable material to build fabrics of Wingsuit. Based on skydivers experiences, when the Wingsuit dives at approximate velocity 83 ( 300 ), it starts to show unstable behaviors. Therefore, all numerical analyses are done at this velocity, consider a large range of angle of attack. The most important aerodynamic parameter which is studied in the present work is lift to drag ratio. Another aerodynamic parameter that is computed in the next step is stall angle of Wingsuit to find maximum reliable angle of attack. To evaluate effects of wearing Wingsuit, the aerodynamic results of Wingsuit are compared to results of bare human body. The results illustrate that significant increase in lift to drag ratio after wearing Wingsuit .compared to geometry without Wingsuit

## کلمات کلیدی:

Wingsuit, Aerodynamics, CFD, Lift, Stall

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