



## **Preliminary study on contrail formation in the Iberian Peninsula**

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In recent years have gone up the interest over the influence of anthropogenic clouds over the climate. Contrails have a strong influence on the radiation budget and as such, are important for climate change. Contrail can partly change the chemical state of the atmosphere. Contrail formation also facilitate the detection of aircraft, which it has been important for military purposes. In the present work We do a review of contrail formation models beginning with Appleman model and going on their next improvements by Schrader and Hanson. The work goes on with a comparison on two different contrail forecast models using two different numerical weather models, MM5 and HIRLAM. We analyse in the third part of this work, good meteorological synoptic conditions for contrail formation with the idea to find synoptic pattern. The main goal of this study is provided an improved algorithm that it can be offered by a numerical model and can be used operatively in INM. It is detected that we need to validate this result with available data at all altitudes. This preliminary study demonstrate that it is necessary additional effort to identification of contrail using satellite techniques and precision in the input of relative humidity and pressure in contrail forecast models.