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A Seeding Evidence Index (IES) of Hailstorm Clouds with IAg in the Province of Mendoza (Argentina) Using the C Band Radar and the TITAN System.

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The randomized method is the most accepted by the scientist community for the seeding evaluation of the hailstorm clouds with IAg to fight the hailstone formation.

In the most studies, the statistical samples consider cases of days with seeded cells, observed when hail was on the ground and when this had not occurred, trading at the clouds as a black box process. This process produces Physical and Dynamics changes in the hail formation, but these interesting process are not measured neither identified.

In our work, we let a side this conception and we begin doing an evaluation identifying and measuring the changes inside the storm cell. We did a study of transparent box. We obtained a quantitative index to measure these process, using a C band radar and the TITAN system.

The first step to evaluate the efficiency in this way is to find evidence to prove that the seeding produces into the cell the changes that the conceptual model affirms. For all the reasons that we had explained the statistical method was the more adapted for our work.

When a cell is seeding, the value of the measured parameters of the radar that changed are Hzmax y Vol, increasing respected of the value that would has the same cell if it was not seeded.

With this parameters, we had developed an index (IES), that allows to measure the

seeding evidence of hailstorm clouds with IAg.

For ours objectives we had used data of the fourth operation seasons.

The IES obtained for the Provincia de Mendoza is:

$$IES = 0{,}0346Hzmax + 0{,}000018Vol$$

In synthesis, ours achievements obtained were:

We obtained a functional relationship to Mendoza to measure the seeding evidence.

We can correlate the measures of the radar parameters with the dynamics and physics changes that the seeding produce into the cell.

We find an index of the seeding evidence that can be used as another tool for seeding operations.