



## **Using the Meteorological Radar to Validate The Conceptual Model of Seeding Hailstorm with IAg in the Mendoza (Argentina).**

**Hugo H. Martínez, Raúl C. Pérez**

*Instituto de Estudios y Prevención de Riesgos Naturales.(IDEPRN). Facultad de Ingeniería.  
Universidad Nacional de Cuyo. Mendoza. Argentina*

hugom@uncu.edu.ar /phone:054-0261-4494002

rcperez@speedy.com.ar

The seeding of clouds with Silver Iodide (IAg) to hail suppression is an accepted procedure for the international scientist community. There are many problems to evaluate if into the thunderstorm cell the seeding produce the changes that the conceptual model affirm, not only to spatial and temporal variability of the problem; else to the expensive cost to get the seeding clouds data. In this work, we had developed a new tool that permits to evaluate if the changes are in agree with the conceptual model of the artificial modification of clouds affirm, using the meteorological radar of C band.

When a cell is seeding, the measured value of parameters for the C band radar that changed are the high of the maxima reflectivity (Hzmax) and the 40 dbz volume of each cell, they increases into relation to the value of the same cells if it was not seeding. These parameters were used as data to develop a statistical correlation study that allows to do an analysis of the seeding effects. The statistical analysis give a very close agreement, the *p-value* was 0 and the Dubin Watson was 0,387137, less than 1,4.

*We can verify that exist a narrow relationship between that to the conceptual model established and the behavior of the radar parameters selected.*