# Application of the Least Squares Method in the Adjustment of Chlorodifluoromethane (HCFC-142b) Regression Models

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**Abstract :** There are many situations in which human activities have significant effects on the environment. Damage to the ozone layer is one of them. The objective of this work is to use the Least Squares Method, considering the linear, exponential, logarithmic, power and polynomial models of the second degree, to analyze through the coefficient of determination ($R^2$), which model best fits the behavior of the chlorodifluoromethane (HCFC-142b) in parts per trillion between 1992 and 2018, as well as estimates of future concentrations between 5 and 10 periods, i.e. the concentration of this pollutant in the years 2023 and 2028 in each of the adjustments. A total of 809 observations of the concentration of HCFC-142b in one of the monitoring stations of gases precursors of the deterioration of the ozone layer during the period of time studied were selected and, using these data, the statistical software Excel was used for make the scatter plots of each of the adjustment models. With the development of the present study, it was observed that the logarithmic fit was the model that best fit the data set, since besides having a significant $R^2$ its adjusted curve was compatible with the natural trend curve of the phenomenon.
**Keywords :** chlorodifluoromethane (HCFC-142b), ozone, least squares method, regression models
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