$$\chi^2 = \sum_{i=1}^{n} (y_i - a_0 - a_1 x_i - a_2 x_i^2)^2$$

Sacamos la derivada para cada a_K e igualamos a $\emptyset_0$

Para a_0:

$$\frac{d\chi^2}{da_0} = \emptyset = \sum_{i=2}^{n} -2(y_i - a_0 - a_1 x_i - a_2 x_i^2)$$

$$\emptyset = \sum y_i - \sum a_0 - \sum a_1 x_i - \sum a_2 x_i^2$$

$$\sum y_i = \sum (a_0 - a_1 x_i - a_2 x_i^2)$$

$$\sum \left[y_i = a_0 - a_1 x_i - a_2 x_i^2 \right]$$

Para a_1:

$$\frac{dX^2}{da_1} = \emptyset = \sum \left[-2 x_i \left(y_i - a_0 - a_1 x_i - a_2 x_i^2 \right) \right]$$

$$\emptyset = \sum x_i y_i - \sum \left(a_0 x_i + a_1 x_i^2 + a_2 x_i^3 \right)$$

$$\sum x_i y_i = \sum \left(a_0 x_i + a_1 x_i^2 + a_2 x_i^3 \right)$$

$$\boxed{\sum \left(a_0 x_i + a_1 x_i^2 + a_2 x_i^3 = y_i x_i \right)}$$

Para a_2:

$$\frac{dX^2}{da_2} = \emptyset = \sum \left[-2x_i^2 \left(y_i - a_0 - a_1 x_i - a_2 x_i^2 \right) \right]$$

$$\emptyset = \sum \left[x_i^2 \left(y_i - a_0 - a_1 x_i - a_2 x_i^2 \right) \right]$$

$$\emptyset = \sum \left(y_i x_i^2 - a_0 x_i^2 - a_1 x_i^3 - a_2 x_i^4 \right)$$

$$\emptyset = \sum y_i x_i^2 - \sum \left(a_0 x_i^2 + a_1 x_i^3 + a_2 x_i^4 \right)$$

$$\sum y_i x_i^2 = \sum \left(a_0 x_i^2 + a_1 x_i^3 + a_2 x_i^4 \right)$$

$$\boxed{\sum \left[y_i x_i^2 = a_0 x_i^2 + a_1 x_i^3 + a_2 x_i^4 \right]}$$