

Estudio de la Modulación de Rayos Cósmicos Galácticos por Actividad Solar Usando un Detector Cherenkov de Agua para la Colaboración LAGO-Colombia

Mauricio Suárez Durán

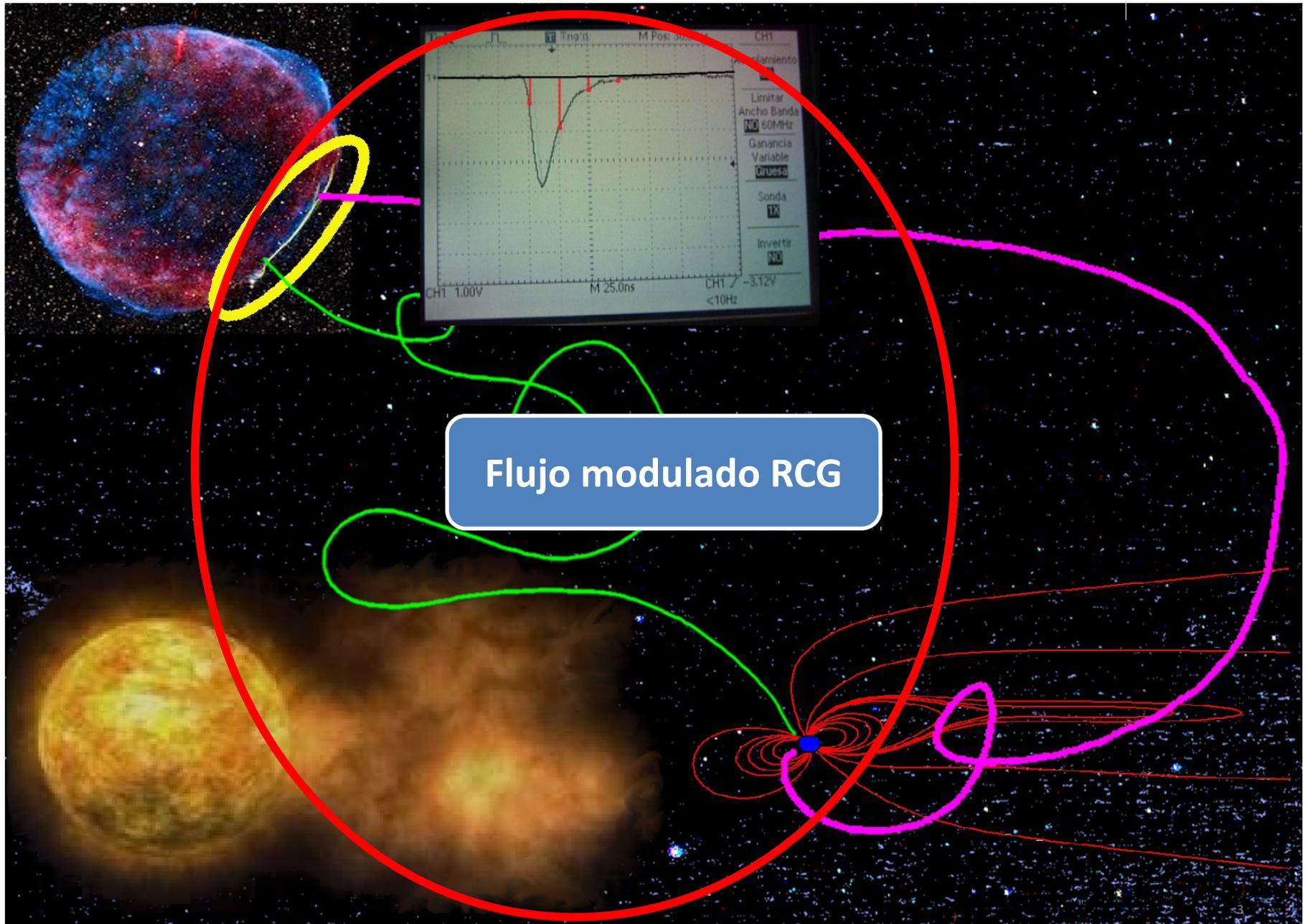
Bucaramanga, Marzo 28 de 2014



Grupo Halley
Astronomía y Ciencias Aeroespaciales

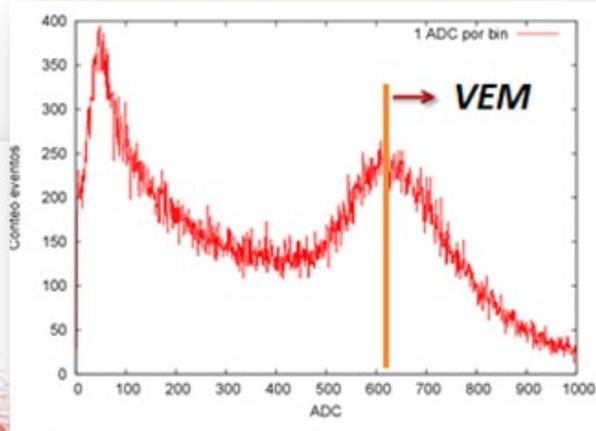


Problema de estudio

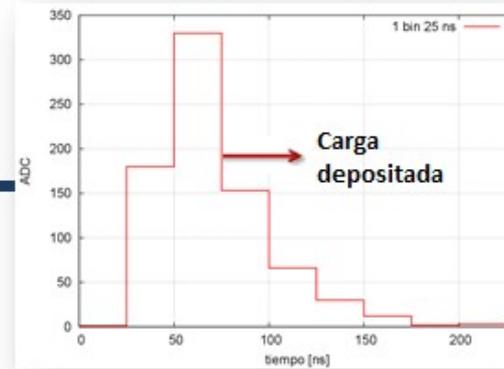


Estado del arte

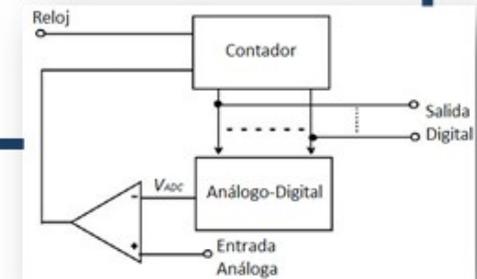
Histograma de carga característico



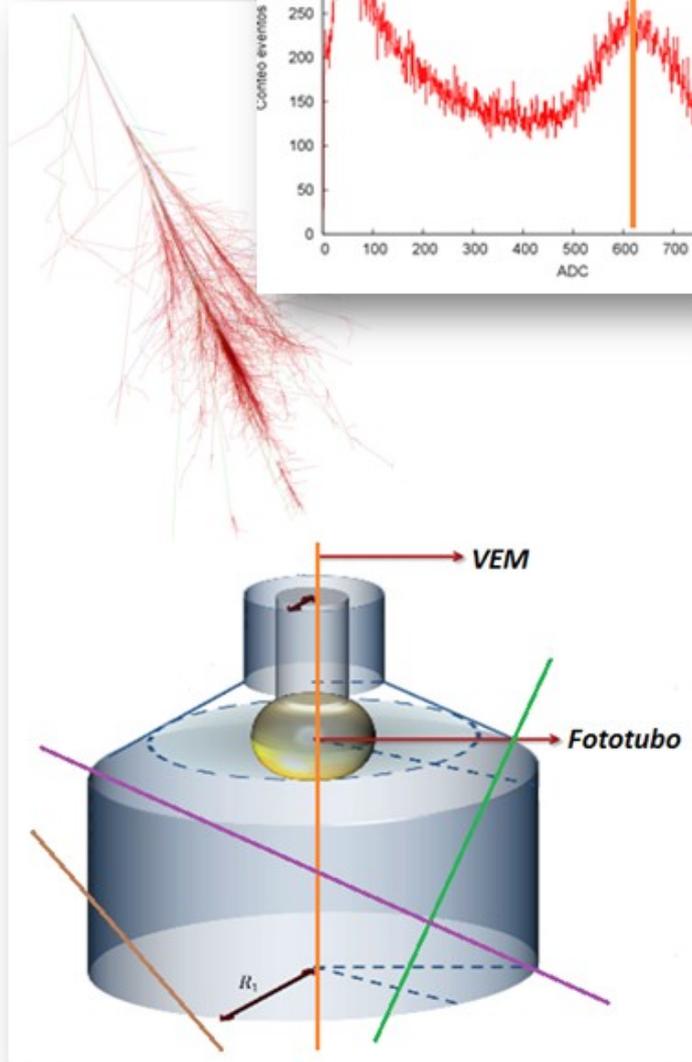
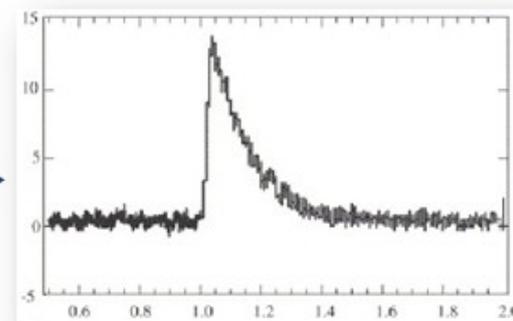
Pulso característico digitalizado



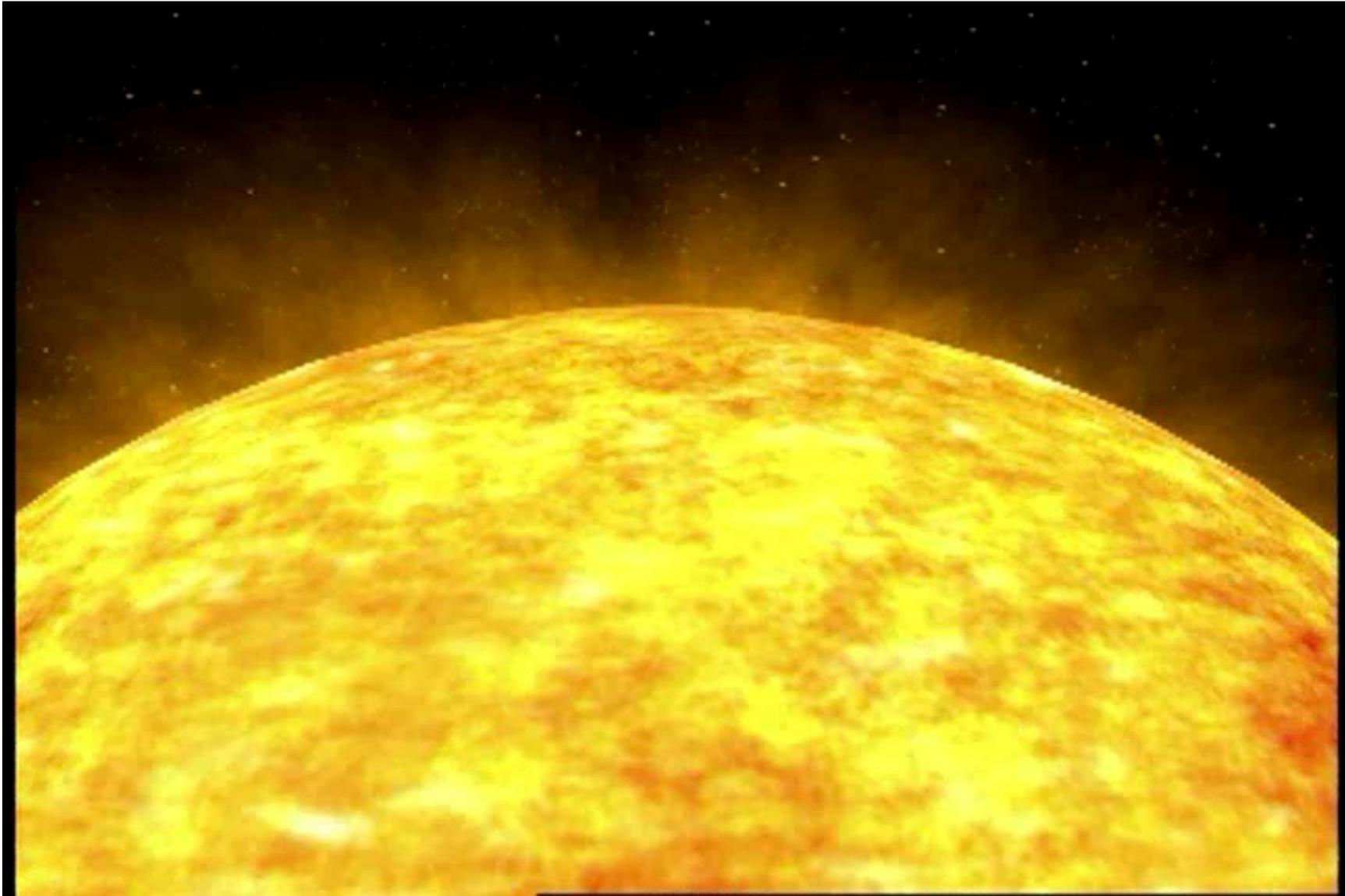
Conversión análogo - digital



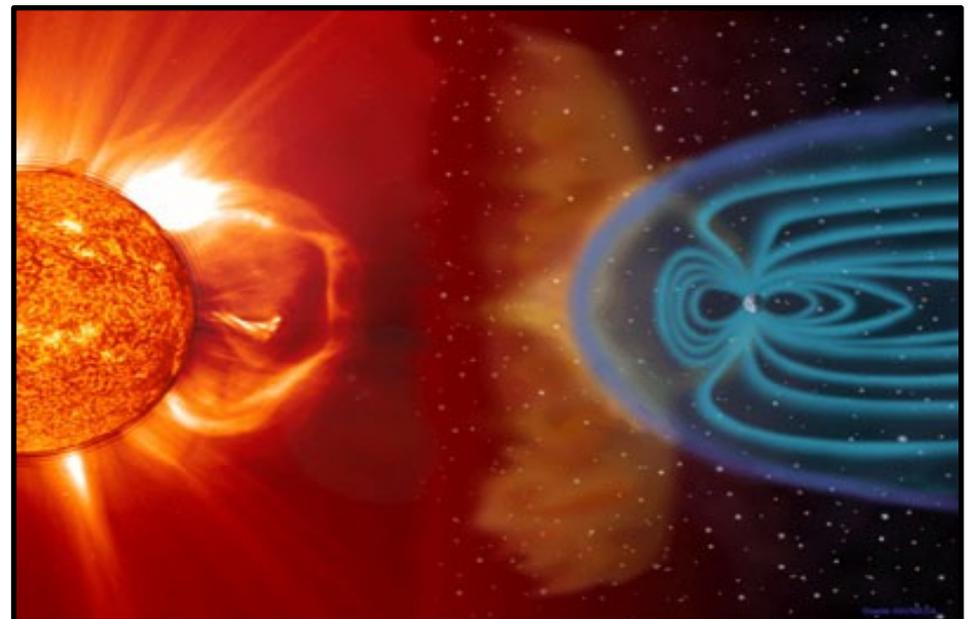
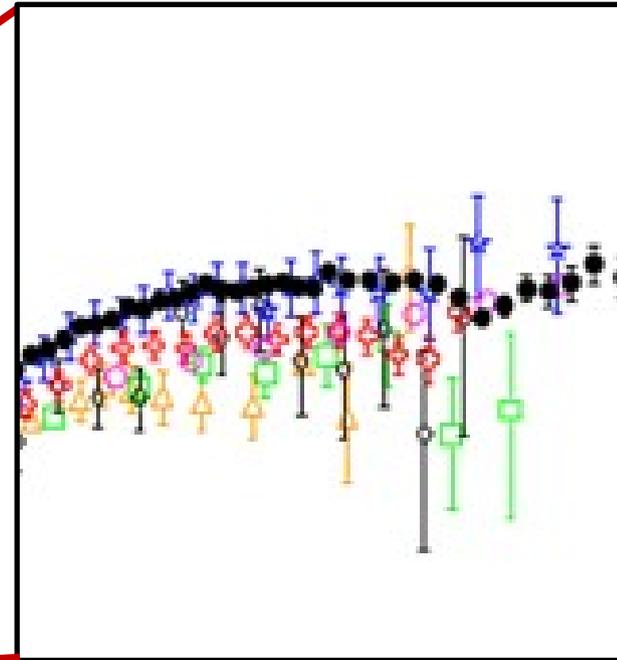
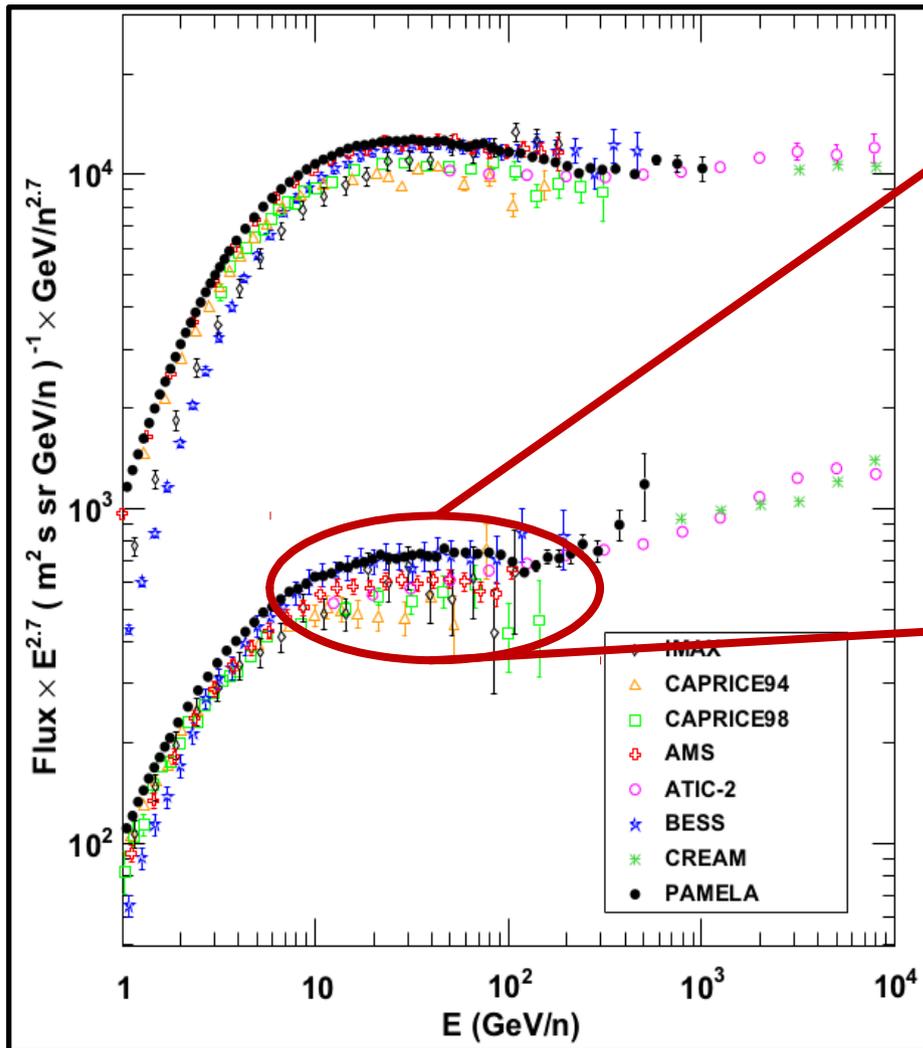
Pulso análogo característico



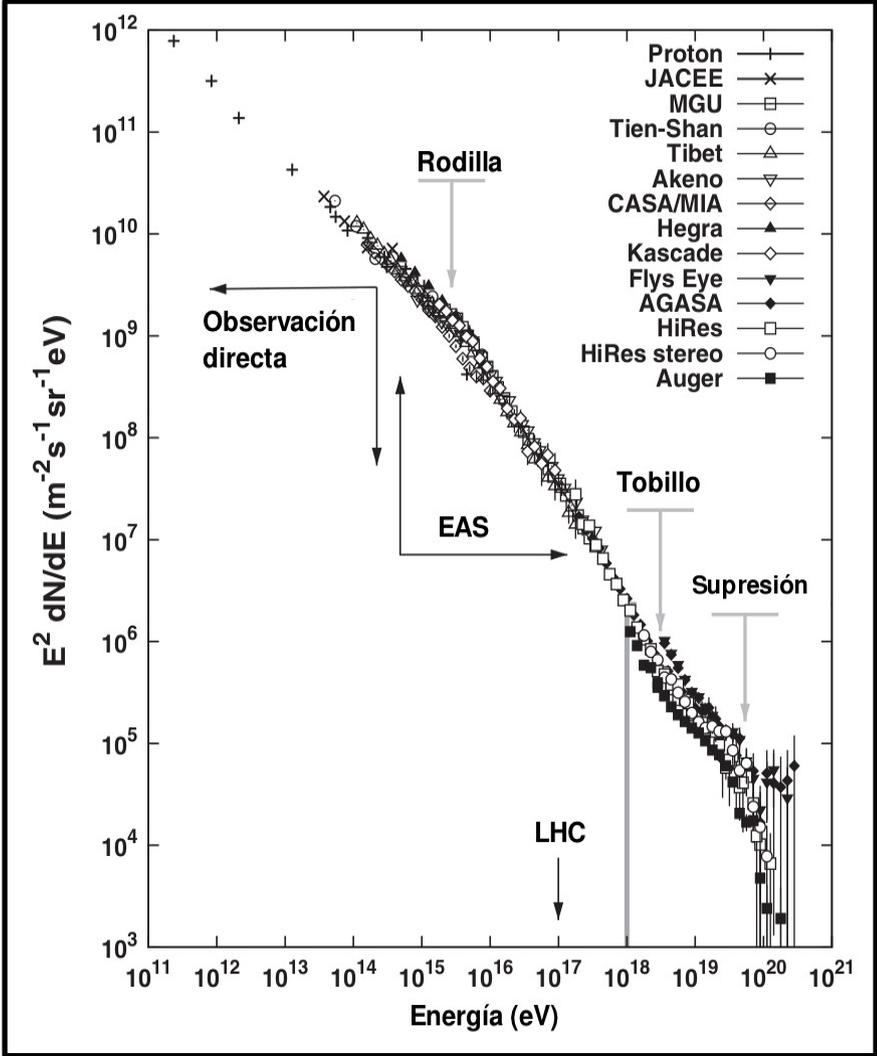
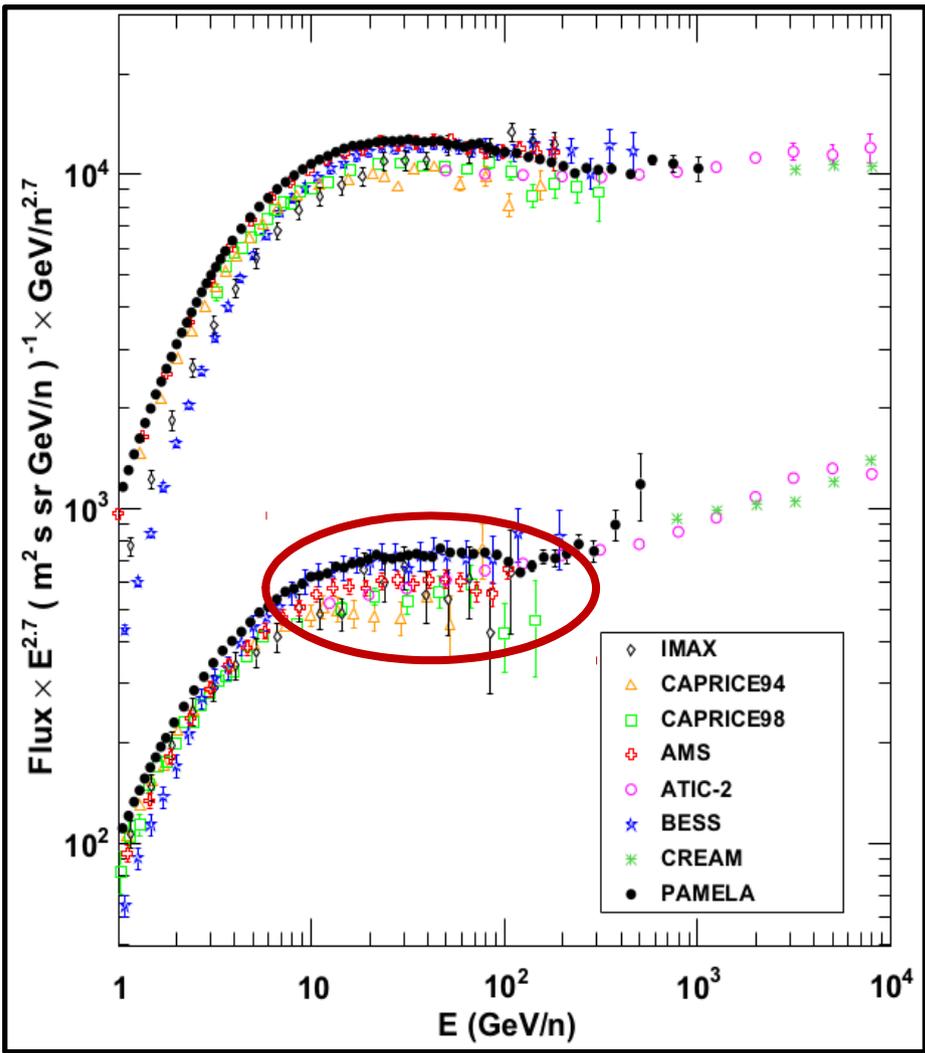
Estado del arte



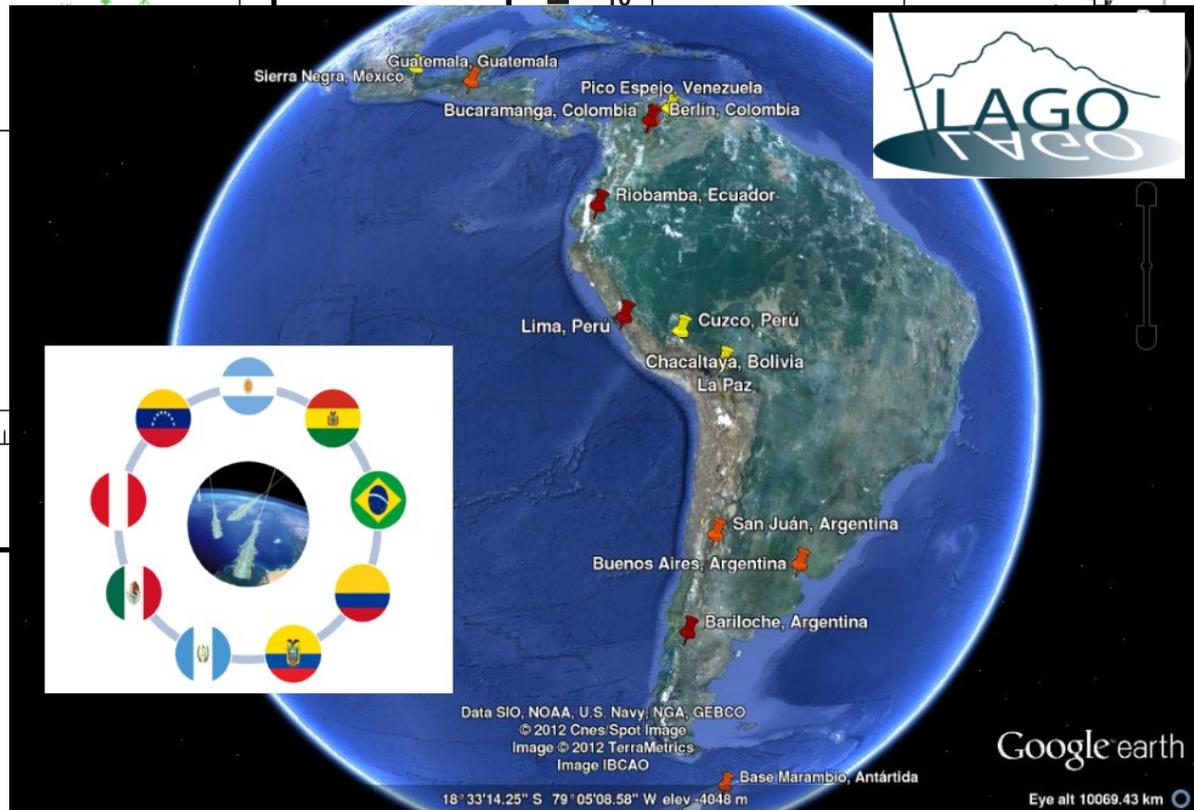
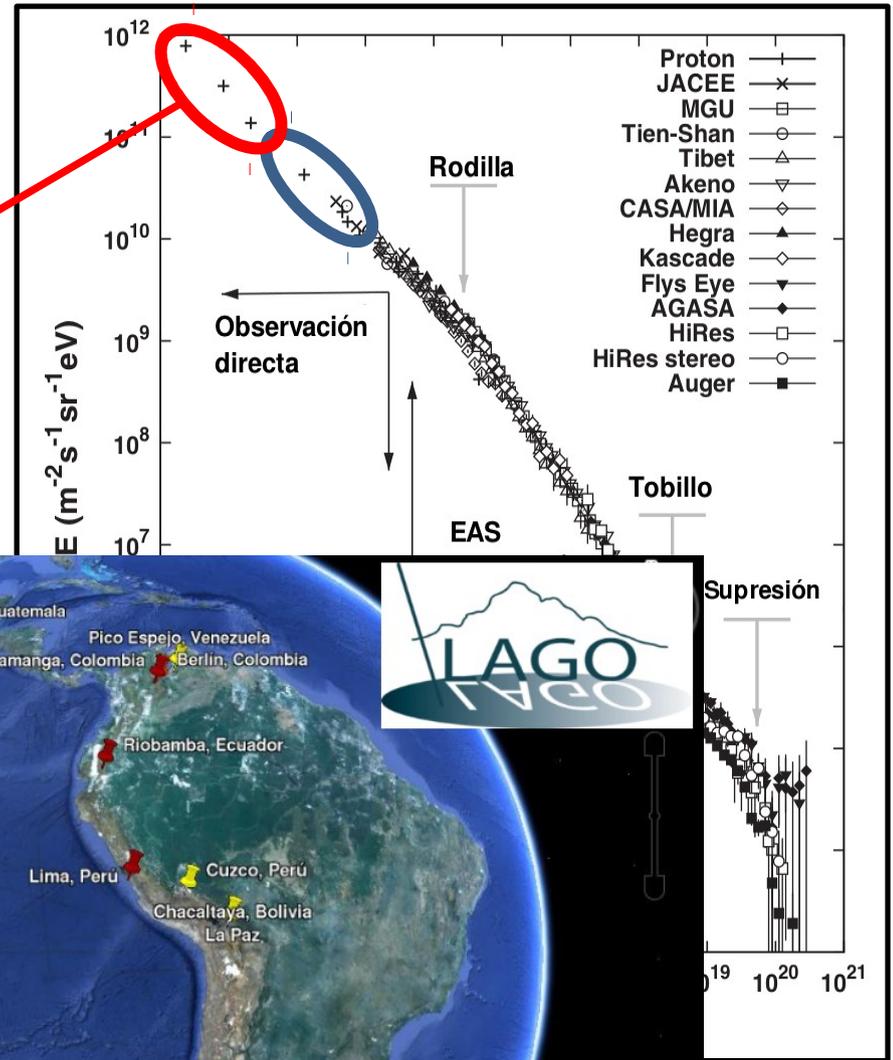
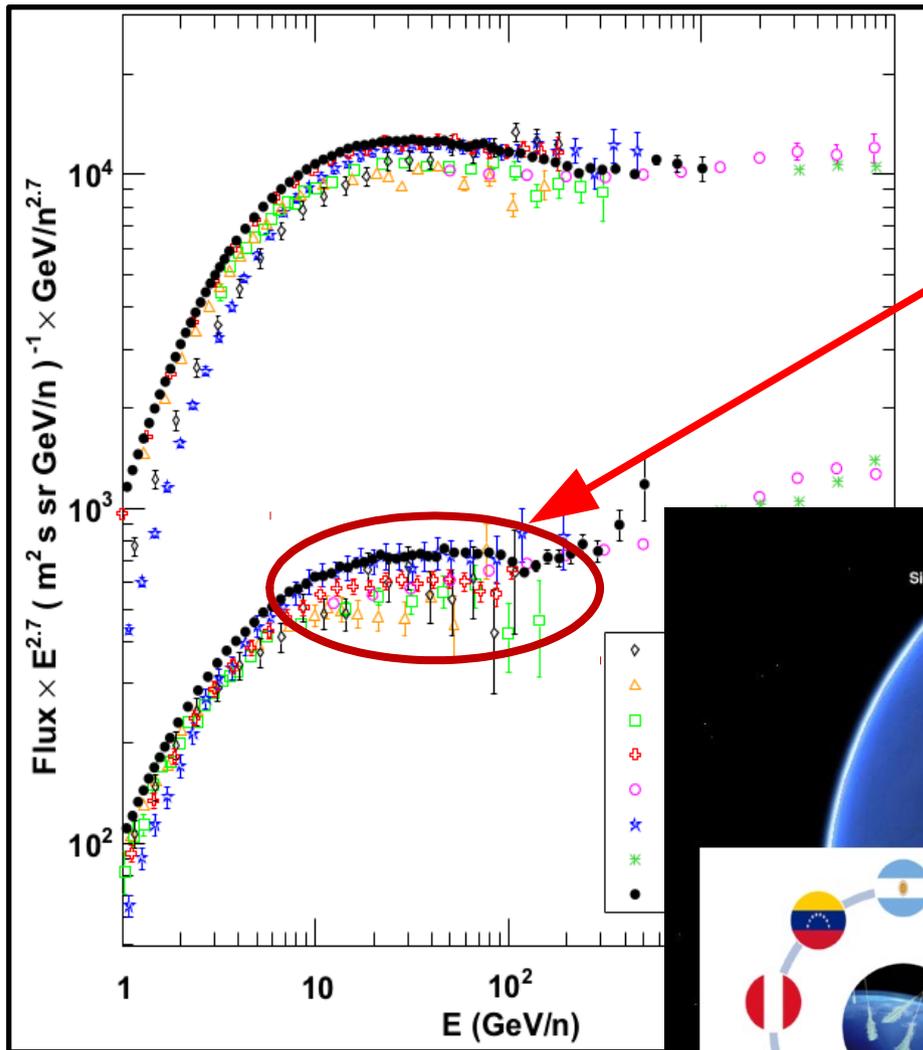
Estado del arte



Estado del arte



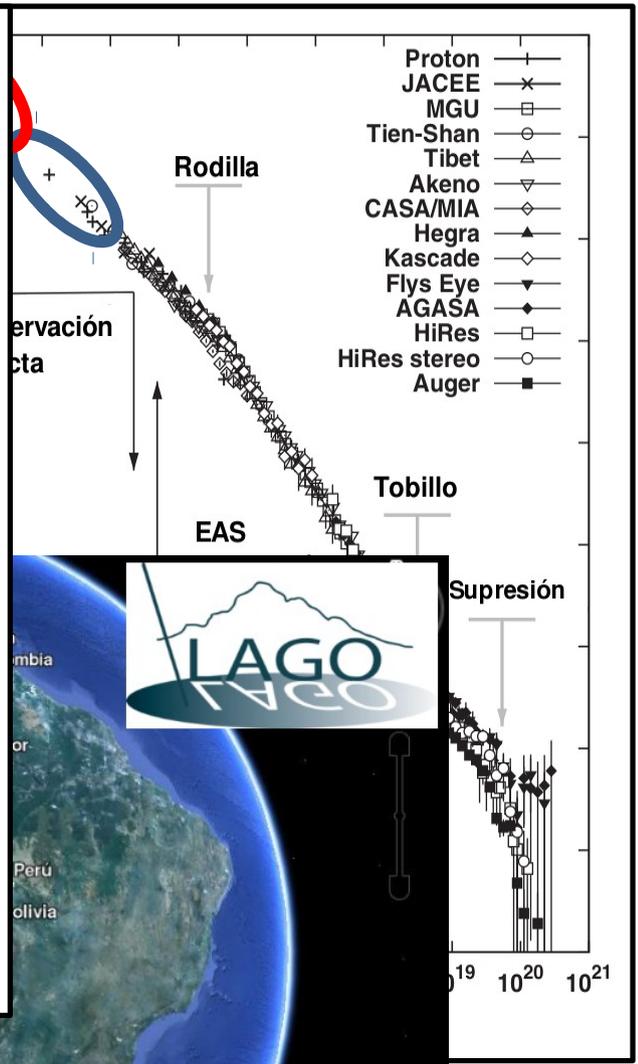
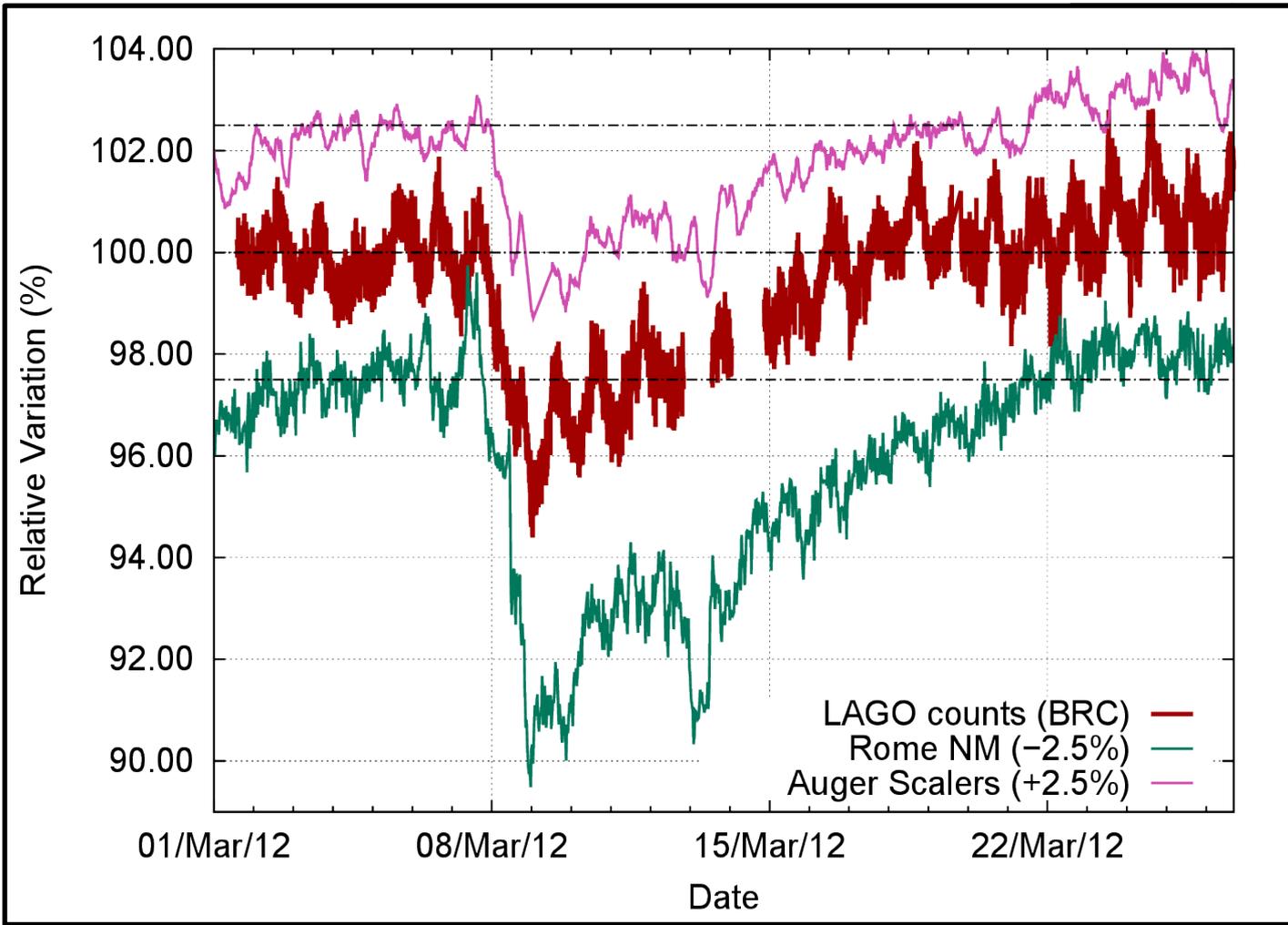
Estado del arte



Data SIO, NOAA, U.S. Navy, NGA, GEBCO
 © 2012 Cnes/Spot Image
 Image © 2012 TerraMetrics
 Image IBCAO

Google earth

Estado del arte

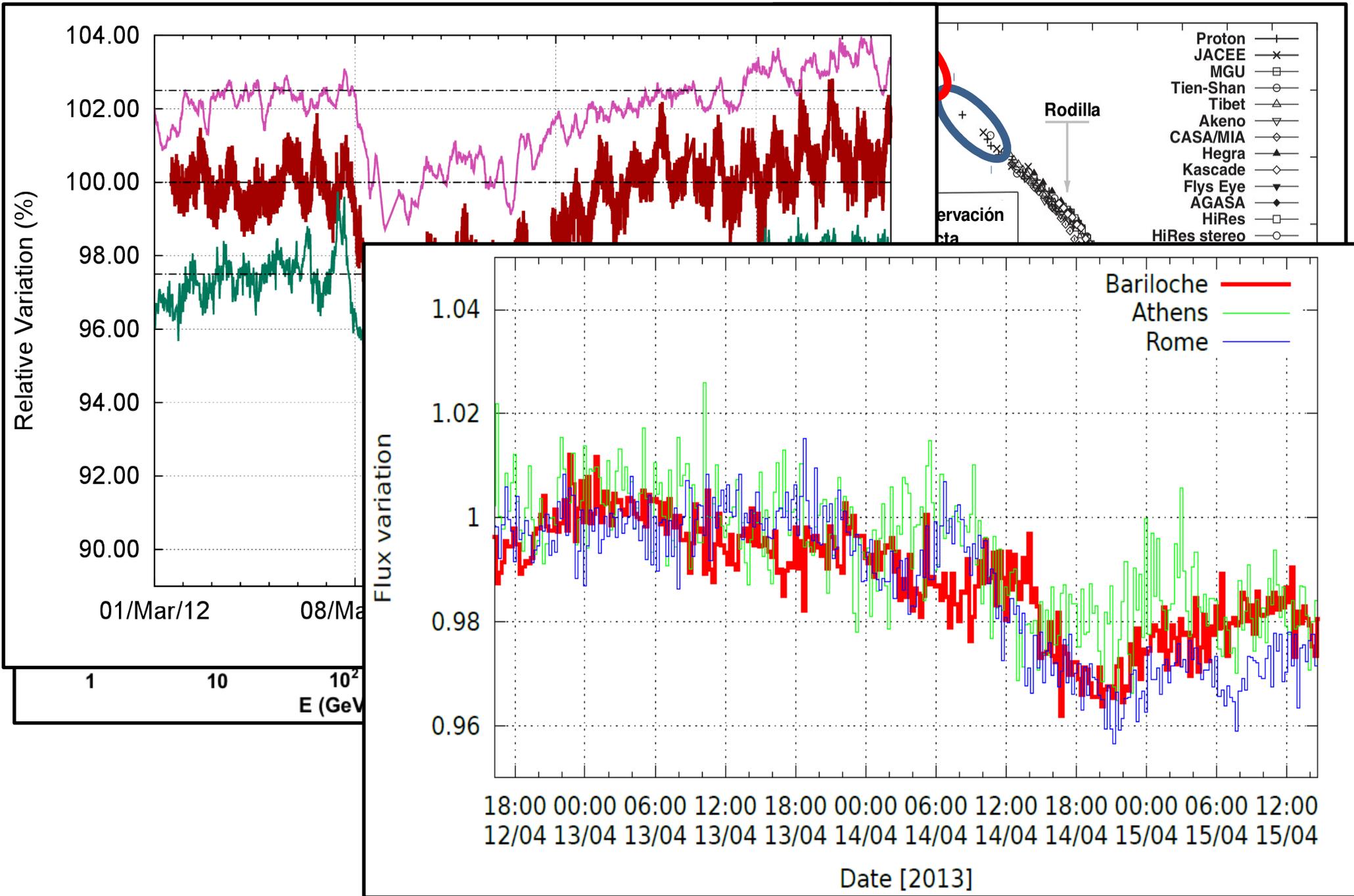


1 10 10²
 E (GeV/n)

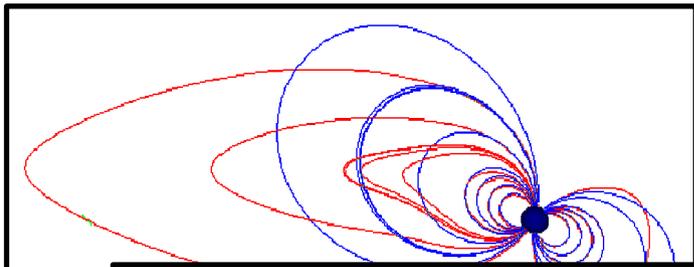


Data SIO, NOAA, U.S. Navy, NGA, GEBCO
 © 2012 Cnes/Spot Image
 Image © 2012 TerraMetrics
 Image IBCAO

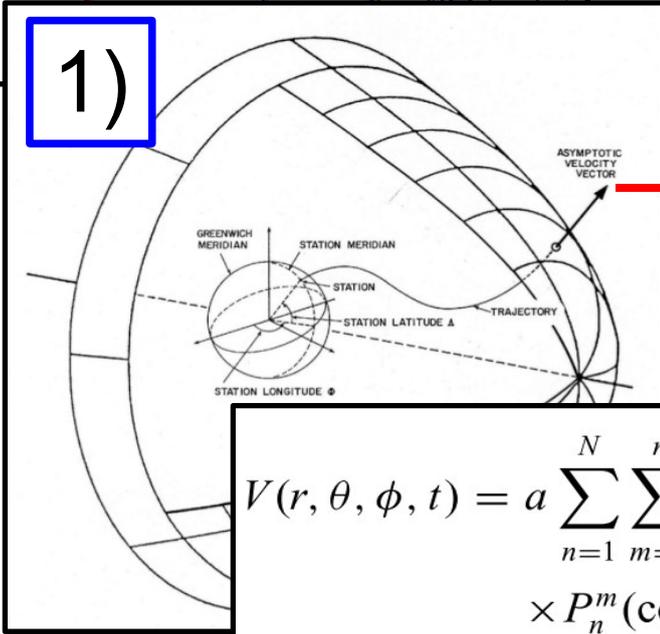
Estado del arte



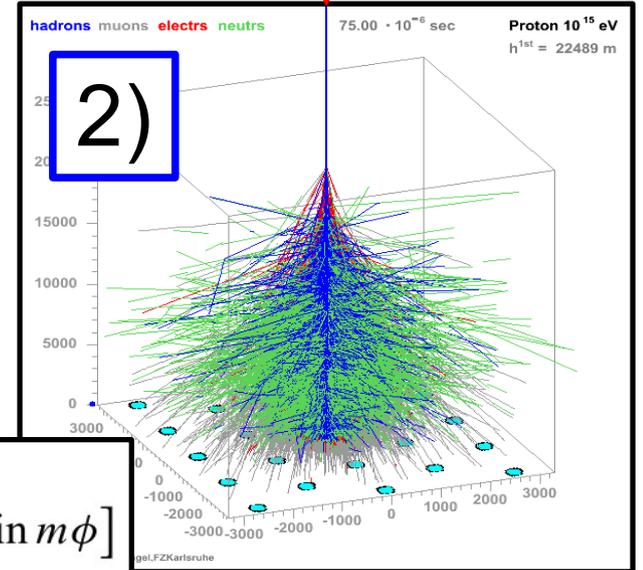
Metodología



1)

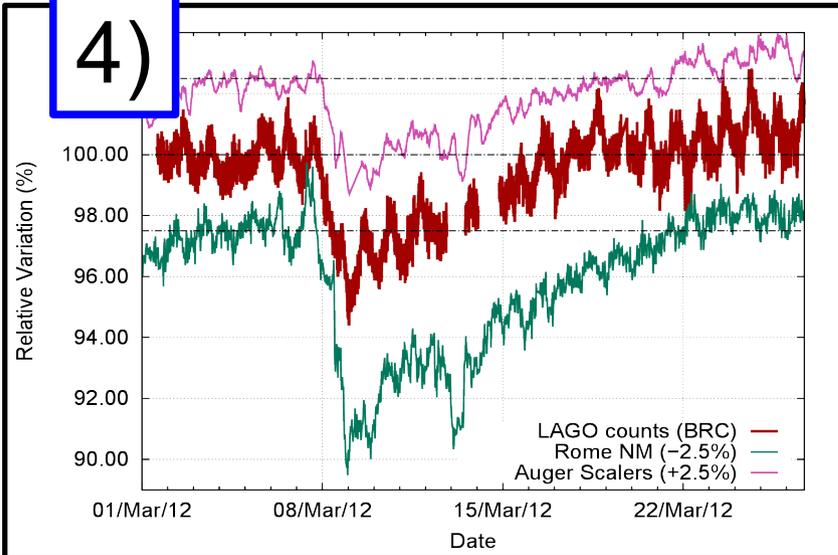


$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \times P_n^m(\cos \theta).$$

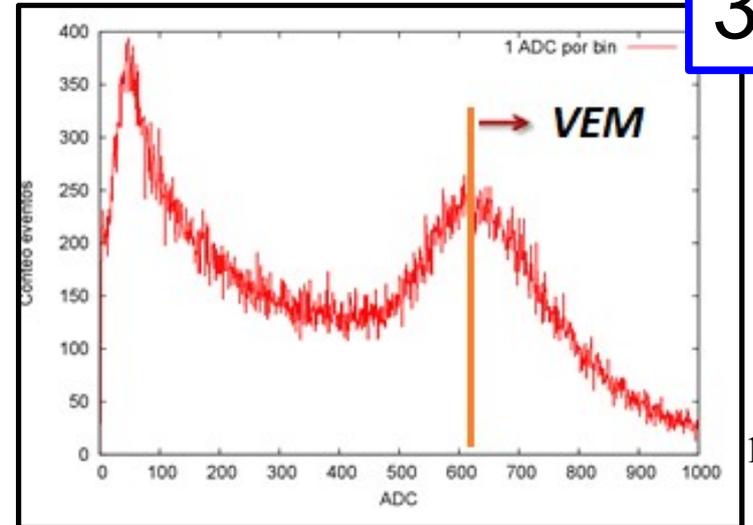


2)

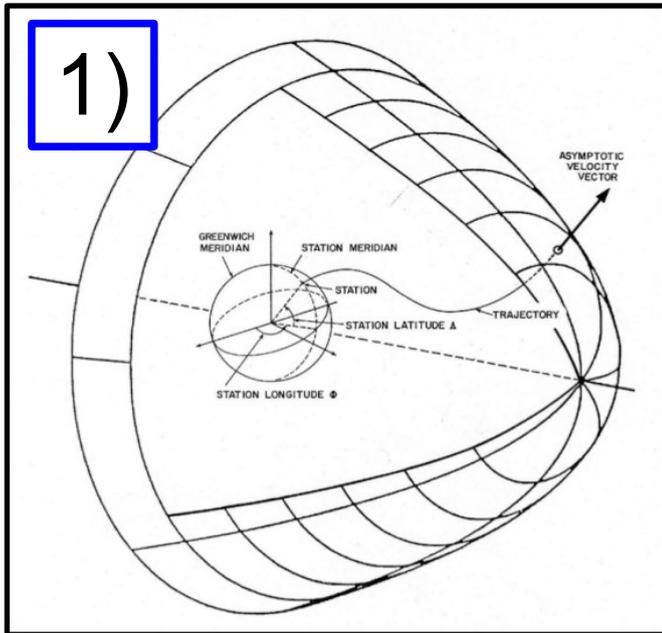
4)



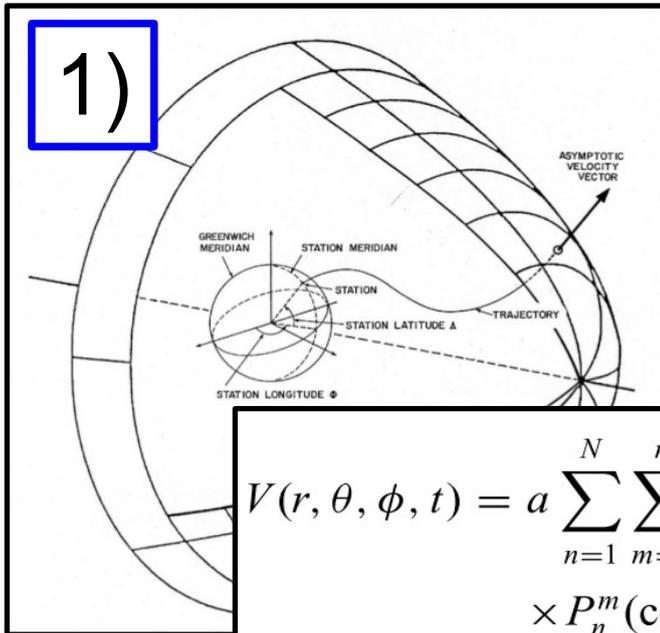
3)



Metodología

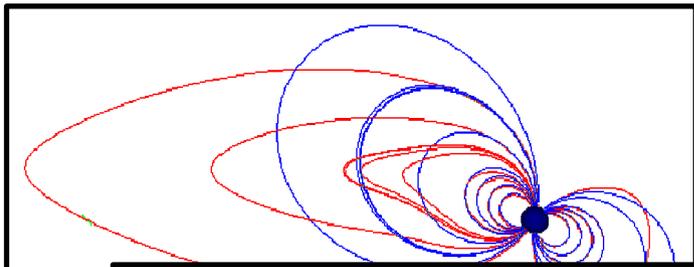


Metodología

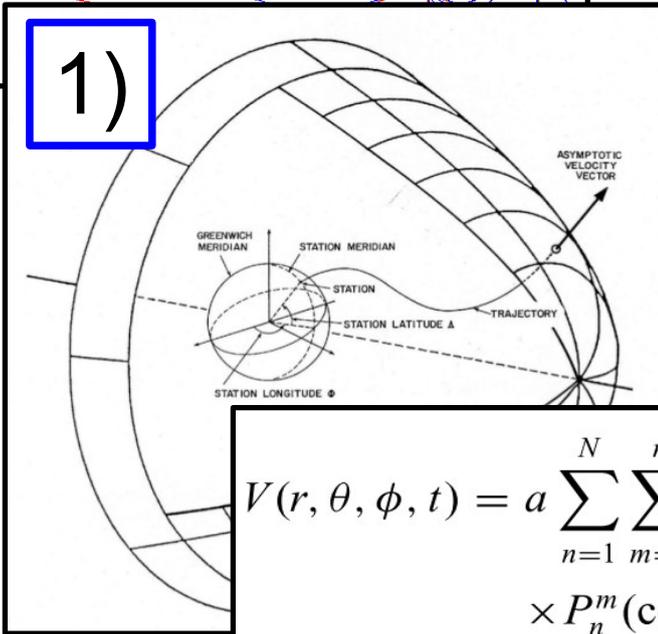


$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \\ \times P_n^m(\cos \theta).$$

Metodología

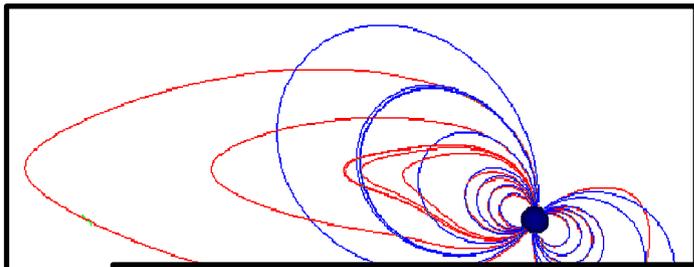


1)

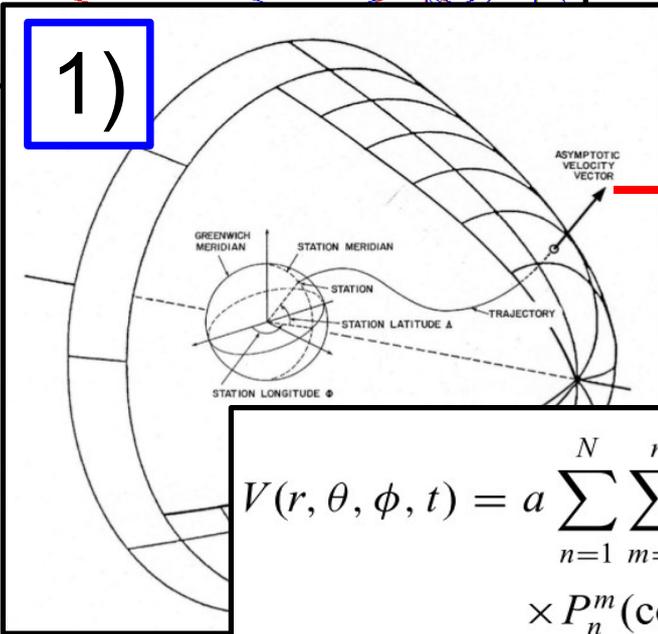


$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \\ \times P_n^m(\cos \theta).$$

Metodología

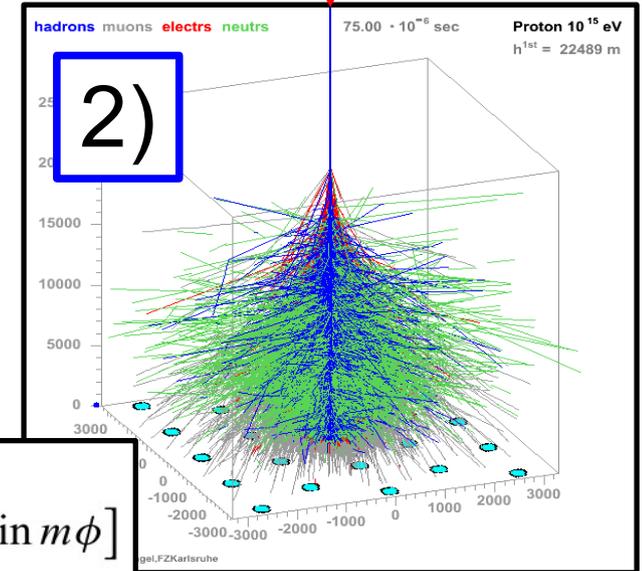


1)

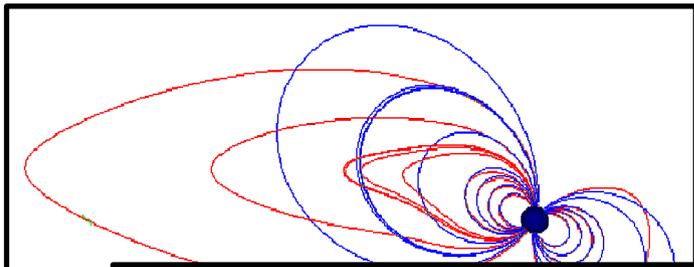


$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \times P_n^m(\cos \theta).$$

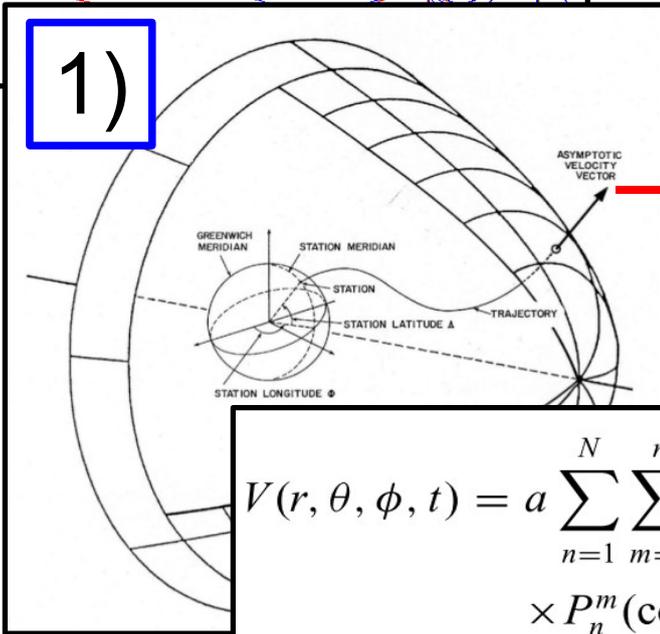
2)



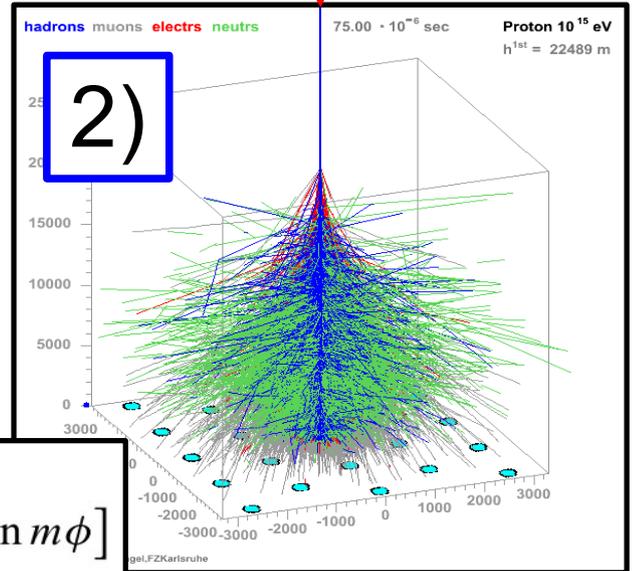
Metodología



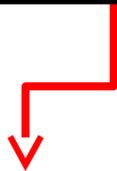
1)



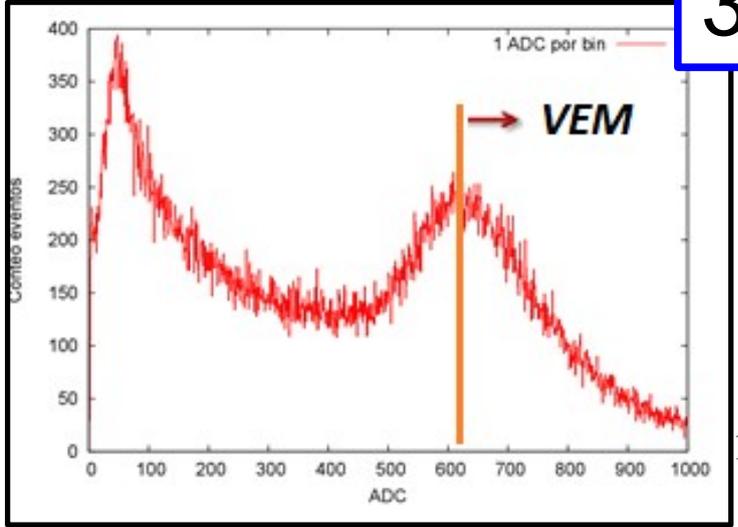
$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \times P_n^m(\cos \theta).$$



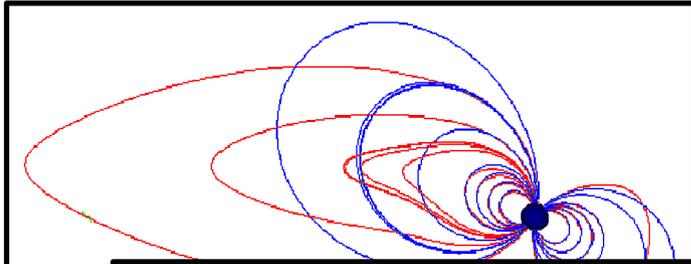
2)



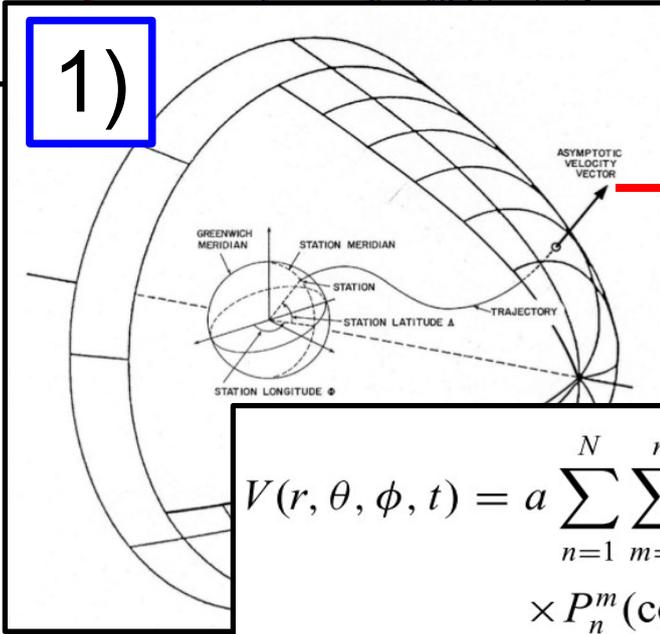
3)



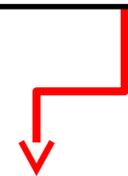
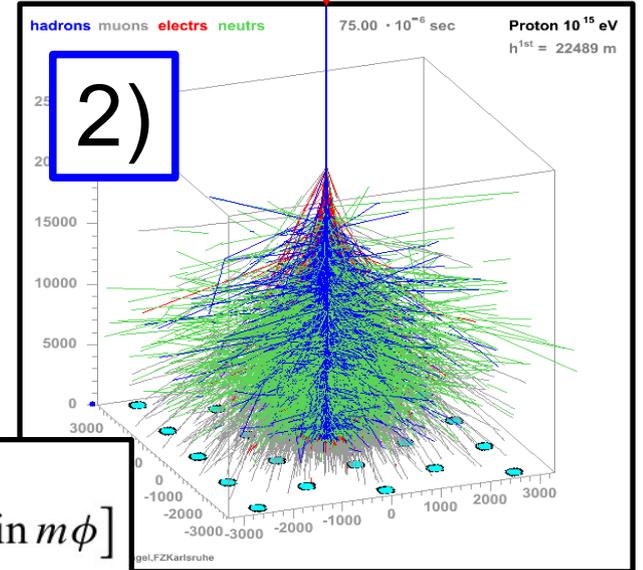
Metodología



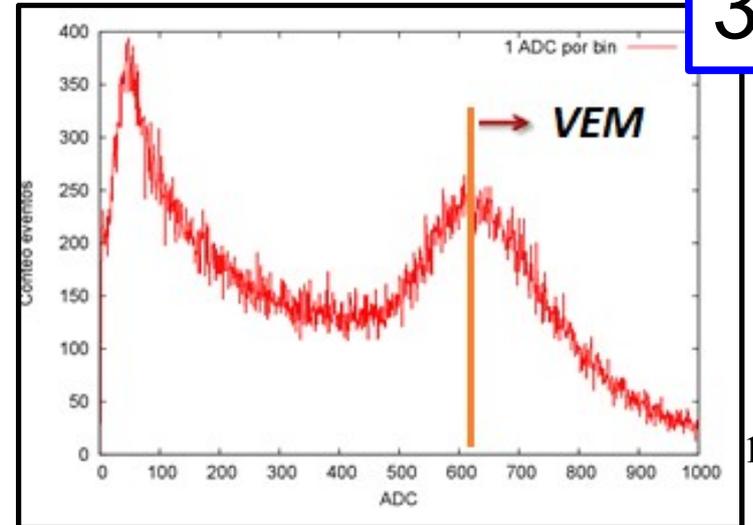
1)



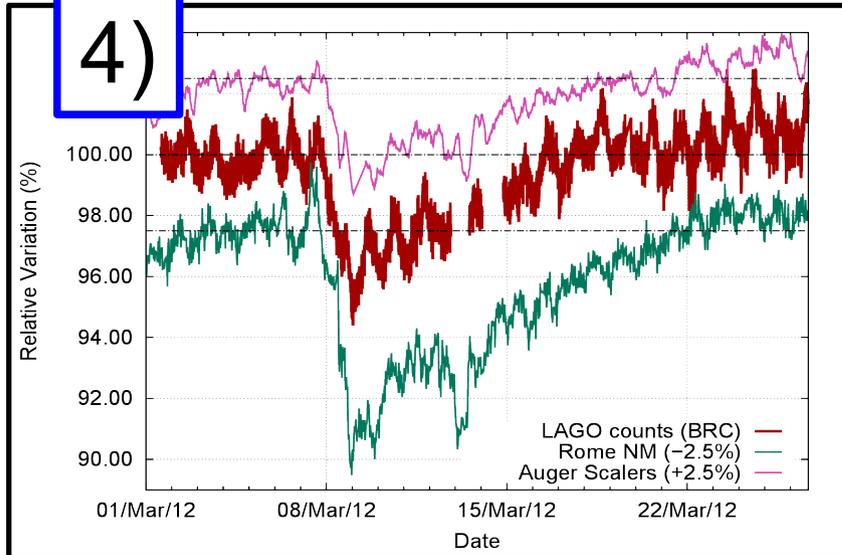
$$V(r, \theta, \phi, t) = a \sum_{n=1}^N \sum_{m=0}^n \left(\frac{a}{r}\right)^{n+1} [g_n^m(t) \cos m\phi + h_n^m(t) \sin m\phi] \times P_n^m(\cos \theta).$$



3)

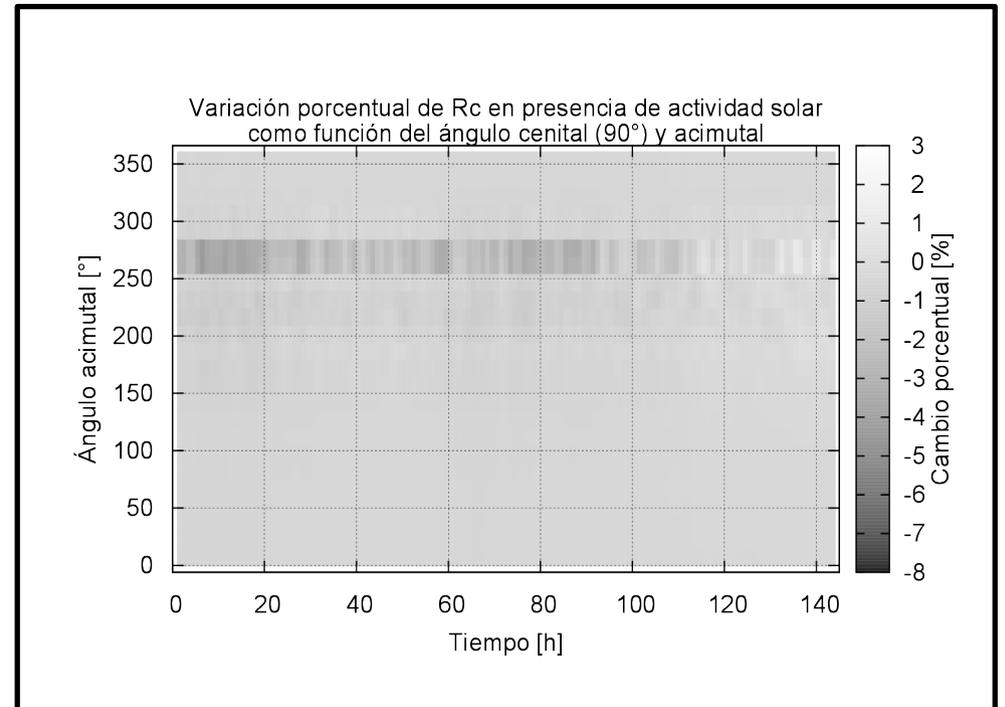
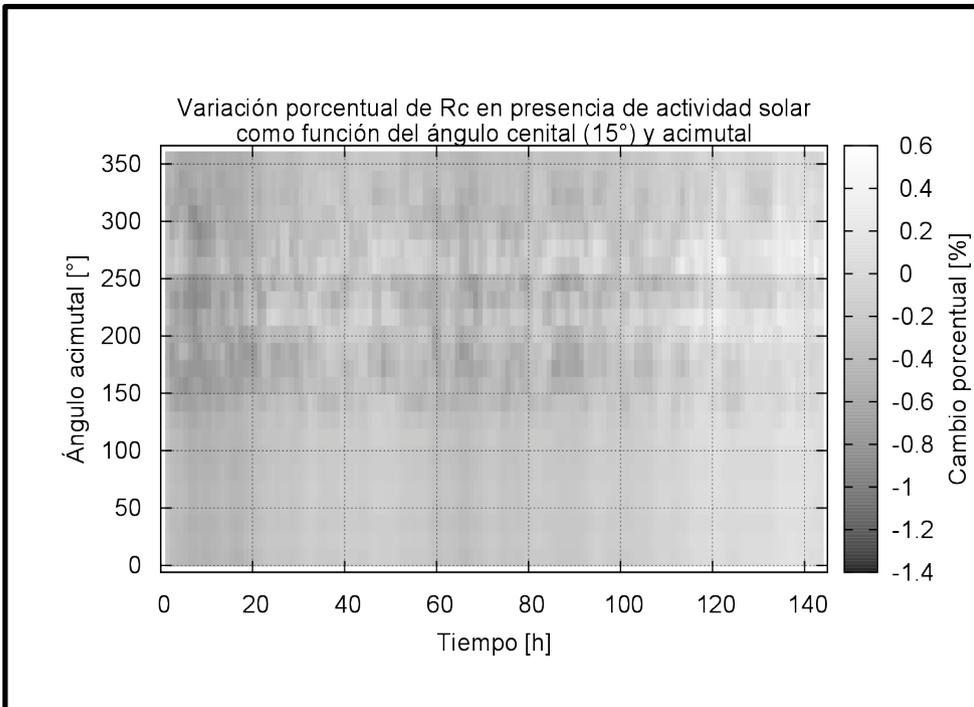
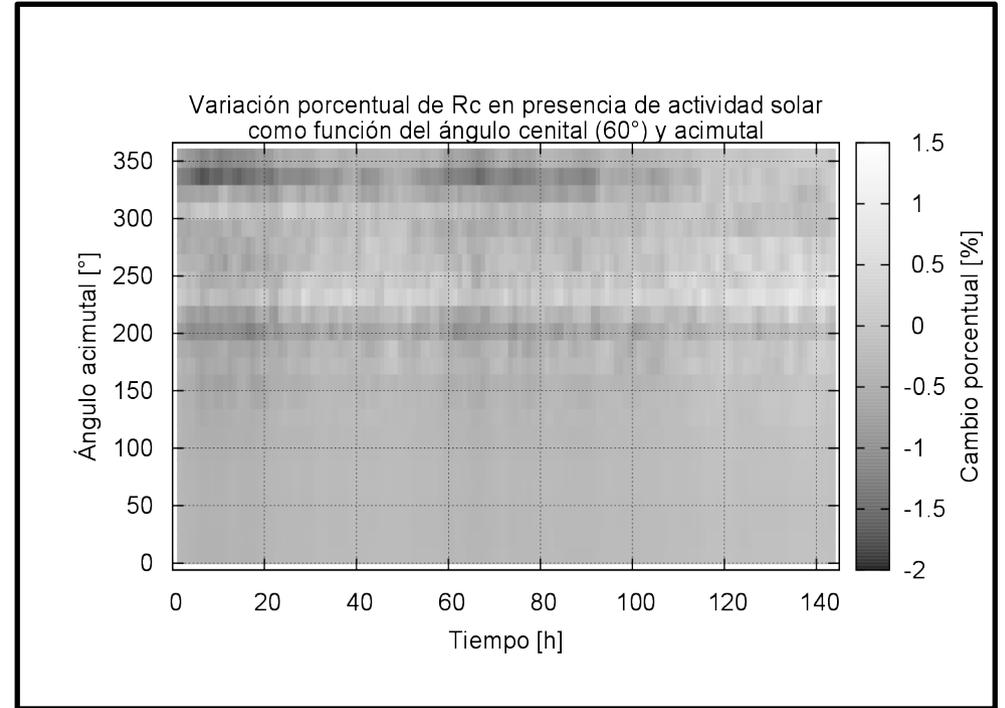
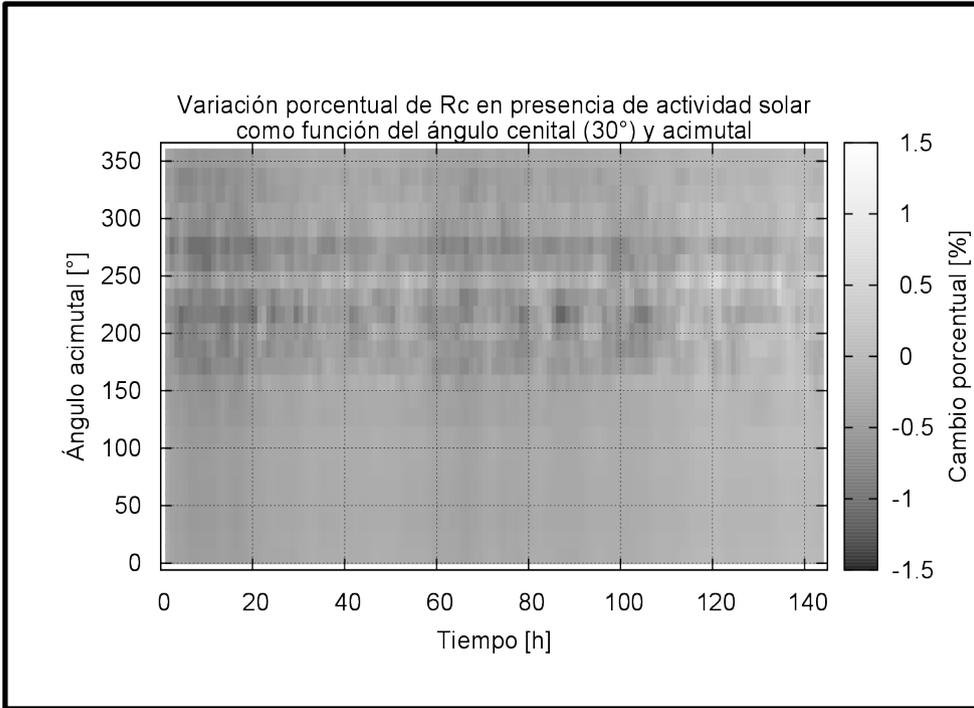


4)

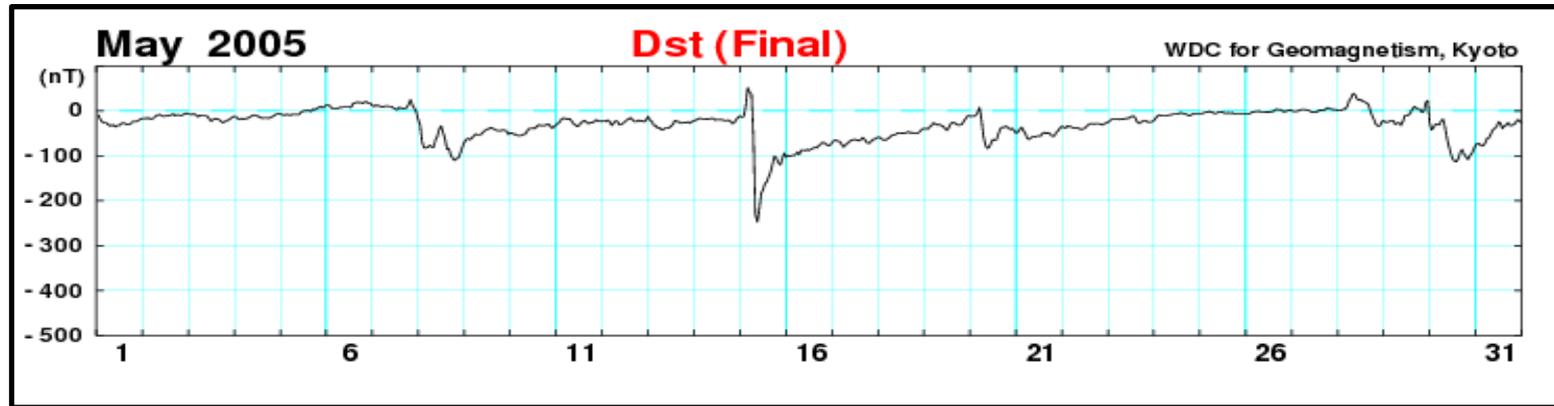


Estado actual del proyecto

Hacia una nueva definición de Rc



Hacia una nueva definición de Rc



Hacia una nueva definición de Rc

