



## **Solar Activity Imprints in some Southern Hemisphere Proxies**

**N. R. Rigozo** (1, 2,3), D. J. R. Nordemann (3), H. E. da Silva (1), E. Echer (3), M. P. Souza-Echer (2,3), A. Prestes (3)

(1) Universidade do Estado do Rio de Janeiro, (2) Faculdade de Educação e Tecnologia Thereza Porto Marques, (3) Instituto Nacional de Pesquisas Espaciais

This work presents a study of the relations between solar and climate variations during the last century by spectral and wavelets analysis for oxygen-18 and tree-ring time series. The oxygen-18 time series has been obtained from Dronning Maud Land, (Antarctica), and Quelccaya, (Peru) ice cores. The tree-ring data has been obtained from Concórdia, Brazil. The spectral and wavelet analysis of oxygen-18 and tree ring data shows periodicities, with 0.95 confidence level, of the solar cycle - 11 and 22 yr. Short-term variations, between 2-7 years, are also present in tree-ring data and oxygen-18 from Peru. The Morlet spectrum of the tree-ring data and oxygen-18 from Peru shows the 11 yr solar cycle for time interval of 1900 to 1985. The Morlet spectrum of the oxygen-18 from Antarctica shows the 22 and 33 yr solar cycle for time interval of 1852 to 1960. This spectral and wavelet analysis shows that both, solar and climate factors, are recorded in proxies from South Hemisphere.