

樹木年輪中の放射性炭素濃度にもとづく太陽活動極小期の前兆現象について

宮原 ひろ子 [1]; 横山 祐典 [2]; 松崎 浩之 [3]; 北澤 恭平 [4]; 永治 健太郎 [5]; 増田 公明 [6]; 中村 俊夫 [7]; 村木 綏 [8]
[1] 東大 宇宙線研; [2] 東大 海洋研; [3] 東大・工; [4] 名大・STE; [5] 名大・STE; [6] 名大 STE 研; [7] 名古屋大・年測セ;
[8] 名大 STE 研

Precursors of the Grand Solar Minima

Hiroko Miyahara[1]; Yusuke Yokoyama[2]; Hiroyuki Matsuzaki[3]; kyouhei Kitazawa[4]; Kentaro Nagaya[5]; Kimiaki Masuda[6]; Toshio Nakamura[7]; Yasushi Muraki[8]
[1] ICRR, Univ. of Tokyo; [2] ORI, Univ. Tokyo; [3] MALT, Univ.Tokyo; [4] STE,Nagoya Univ; [5] STE, Nagoya Univ.; [6] STEL, Nagoya Univ.; [7] CCR, Nagoya Univ.; [8] STEL, Nagoya University

The sun holds ~200-year quasi activity period, which cause sporadic prolonged sunspot absence lasting several decades. Since such sunspot absence may have an impact on near-earth space and also on global climate, it has been an important issue to establish the methodology of predicting the future solar activity. However, it is yet difficult to predict even the timing of the onset of next 11-year solar cycle. We therefore examined the precursory feature of solar cycles of the prolonged sunspot absence occurred during the last ~600 years. Our carbon-14 based analyses of the evolution of solar cycles around the onset of two prolonged sunspot absent periods, the Maunder Minimum (1645-1715 AD) and the Spoerer Minimum (1416-1534 AD), reveal that the lengths of at least two preceding cycles of the sunspot absence are stretched by a few years as well as the solar cycles during the events. Even though the duration and the evolution of solar cycles during the time are different by each event, they are likely to have similar but possibly slightly different portents.