

Solar activity prediction studies and services in NAOC

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Solar activity prediction services started in 1960's in National Astronomical Observatories, Chinese Academy of Sciences (NAOC). As one of the members in International Space Environment Service (ISES), Regional Warning Center of China (RWC-China) was set up in 1990's. Solar Activity Prediction Center (SAPC), as one of the four sub-centers of RWC-China, is located in NAOC. Solar activity prediction studies and services in NAOC cover short-term, medium-term and long-term forecast of solar activities. Nowadays, certain prediction models, such as solar X-ray flare, solar proton event, solar 10cm radio flux model, have been established in practical prediction services. Recently, more and more physical analyses are introduced in the studies of solar activity prediction, such as the magnetic properties of solar active regions and magnetic structure of solar atmosphere. Besides traditional statistics algorithms, Machine Learning and Artificial Intelligence techniques, such as Support Vector Machine (SVM) method, are employed in the establishment of forecast models. The daily solar activity prediction services can be found on the web site: <http://rwcc.bao.ac.cn> .