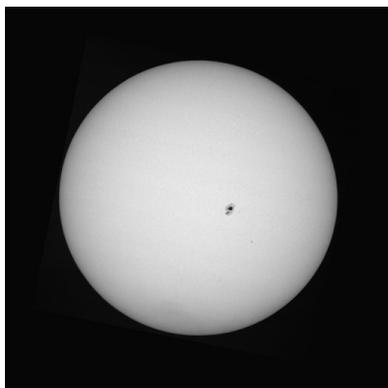


# SOLAR CYCLE 24

## Belgian expertise in international panel



The sun in visible light on Dec 12, 2006. This picture was taken by the groundbased telescope located at the Royal Observatory of Belgium. The sunspot which is visible in the picture, was responsible for a few days of extreme space weather. This is atypical for the phase of the solar cycle we are now in, namely solar minimum. However, the sun has not become crazy and is still on the road to a real minimum.

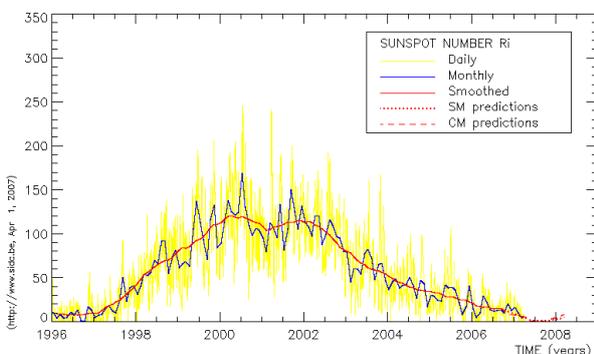
October 2006, the 'Solar Cycle 24 Prediction Panel' met for the first time in Boulder, Colorado. As we are heading towards solar minimum at the end of cycle 23, interest in and speculation about the expected height of the next solar cycle is mounting. The panel has the difficult task of weighing the credibility and forecasting quality of different methods yielding forecasts ranging from a very low to a reasonably high solar

cycle 24. The members of this commission are solar experts from all over the world. From Belgium, solar physicist Dr. R. Van der Linden is seated in this panel. He is the director of the SIDC, 'Solar Influences Data analysis Center', part of the Royal Observatory of Belgium. At the SIDC, everything turns around the sun in both senses of the word. On one side, the SIDC is the World Data Center for the Sunspot Index. The center is responsible for the calculation, archiving and distribution of the International Sunspot Number which is a proxy of solar activity. The archive of this index goes back to 1700 and is a valuable and unique source of information about solar activity in the past which is the key to the future. The SIDC predicts the short time evolution of the sunspot index based on a method founded partially at the Royal Observatory of Belgium by P. Cugnon. In 2000, the SIDC took up the challenge of a Regional Warning Center (RWC) where space weather is monitored and predicted. The SIDC became part of a worldwide network of space weather centers. Space weather is a scientific discipline which becomes more important as our society relies more on high-

technology infrastructure and applications like satellites, GPS systems, electric power distribution grids and more.

The scientific expertise about the sun and space weather has put Belgium on the (space)map and guaranteed a seat in this panel with world fame.

After the first workshop, the members of the 'Solar Cycle Prediction Panel' stayed in touch via e-mail and monthly teleconferences. During the second workshop in March 2007, a consensus text was made which was available through a press conference on Wednesday April 25 on the Space Weather Workshop in Boulder.



If the earth weather allows us, the solar sunspot are observed on a daily basis with the solar telescope which is located on the domain of the Royal Observatory of Belgium (picture above). With this data and observations from all over the world, the SIDC calculates the International Sunspot Number. The data are accessible for every body and free for use. The sunspot archive is valuable for research of the past solar activity and the link with earth. Estimates about the future behaviour of the sun are based on the past. The figure on the left gives an overview of the daily/monthly sunspot number of the recent cycle and a prediction of the coming minimum.