

Proposal on the future determination of the Wolf number

1. Beginning January 1, 1981, the international service of the Wolf number will be provided by the "Sunspot Index Data Center" (SIDC) under the responsibility of Dr. A. Koeckelenbergh, in collaboration with Département de Radioastronomie et de Physique Solaire de l'Observatoire Royal de Belgique (Uccle) and Institut d'Astronomie et d'Astrophysique de l'Université Libre de Bruxelles.
2. The objectives of SIDC are defined as follows:
 - (a) Determination and prompt monthly distribution of the "Provisional Sunspot Number" to international institutions and services being in need of these data.
 - (b) Determination and distribution of the "Predictions of the Smoothed Monthly Sunspot Numbers".
 - (c) Determination and annual distribution of the "International Definitive Wolf Numbers R".
 - (d) Research work leading to a better definition of the characteristic indices of solar activity.
3. A Working Group of the principal collaborators in the sunspot patrol will assist the SIDC. The main objective of this group will be to guarantee continuity and assure homogeneity between the series of Wolf numbers published by SIDC and the previously published numbers.
4. To maintain the homogeneity of the series the provisional sunspot numbers will be based primarily on observations obtained at the station in Locarno (Specola Solare). A phone or telex connection between Locarno and Brussels will assure that the observations for a whole month will be available at the last day of each month. The provisional numbers would also be partially based on observations in Zürich in the case that an observing station would remain there. The data will be evaluated by SIDC in the same way as Zürich has done it. R_2 will be renamed R_I (international relative number).
5. The monthly circulars giving the provisional numbers will be printed in a format similar to the Zürich Sunspot-Bulletin (see encl.) and be distributed before the 5th of the succeeding month.
6. The definitive Wolf numbers will be published during the first quarter of the succeeding year as Zürich has done since 1956 and according to the scheme of Dr. A. Zelenka for 1979.

7. If requested SIDC will also determine the relative sunspot numbers for the central zone of the sun and distribute the data in the form of circulars adapted to the particular needs.
8. Until the end of 1981 the working group will consider the problem of how further sunspot statistics - as given in "Astronomische Mitteilungen der Eidgenössischen Sternwarte Zürich" no. 375 ('Die Sonnenaktivität im Jahre 1978') - could eventually be published. Specola Solare will also study whether some of the other information that has been included in the above-mentioned report could be determined in future.
9. As concerns the "Heliographic Maps of the Photosphere", we intend to pursue the following procedure:
 - (a) The Section de Physique Solaire de l'Observatoire Royal de Belgique will send the tables of "Evolution of Sunspot-Groups" to Locarno, where they will be complemented by the observations of the Specola Solare. The exchange of copies of solar photospheric drawings to cover gaps in the observations will be continued in the same way as it is presently done.
 - (b) Whether the "Heliographic Maps" will continue to appear will depend on the resources of the Specola Solare in Locarno.
 - (c) The possibility of publishing the two documents mentioned under (a) and (b) will be examined by the Specola Solare. In case of a negative result, the tables mentioned under (a) will be incorporated in the annual reports of the station in Uccle.
10. As the International Astronomical Union will hold its General Assembly in 1982, the following temporary actions have been foreseen for the period from 1980 to 1982:
 - (a) The activity of the SIDC will be limited to the period September 1, 1980, to January 31, 1983. If recommended by the IAU it could be continued after that date.
 - (b) The archives of the International World Data Center in Zürich will be transferred to the main library of the Swiss Federal Institute of Technology or to Locarno (Specola Solare) after they have been copied to microfiches or microfilms. One set of copies will be transferred to SIDC covering the documents of the last 40 years.
 - (c) SIDC will contact the Scientific Unions interested in the distribution of Wolf numbers to obtain advice on the optimum presentation and distribution of the sunspot circulars.

- (d) Zürich will remain responsible for the "Provisional Sunspot Numbers" until December 31, 1980.
- (e) Beginning September 1980, SIDC will as an experiment independently determine a provisional sunspot number, without publishing it. This determination will employ the same methods and the same information as in Zürich.
- (f) For this purpose a circular will be sent out around July 1, 1980, to all collaborating observatories and private observers inviting them to address their reports at the same time to Zürich and to the SIDC during the months from August to December 1980. From January 1, 1981, all observations should be sent to the address of SIDC only: "Sunspot Index Data Center, c/o Dr. A. Koeckelenbergh, 3 avenue Circulaire, B1180, Brussels, Belgium".
- (g) In September 1980 the cooperating observatories and the interested international unions will be informed officially by a circular letter on the transfer of the activities from the Zürich center to SIDC-Brussels.
- (h) The SIDC - in agreement with the working group - will prepare a memorandum by October 1, 1981, giving details of its activities. At the same time a proposal will be made for a resolution or recommendation to be submitted to the International Astronomical Union in 1982. This proposal should first be submitted to the National Astronomical Committees of Switzerland and Belgium, and they should jointly recommend it to IAU Commission 10 and/or to the General Assembly of the IAU in 1982.

This proposal was prepared jointly by Uccle - Locarno - Zürich,
June 3-6, 1980, on the basis of a draft by Dr. A. Koeckelenbergh.

Sunspot Index Data Center (S I D C)
c/o Dr. A. Koeckelenbergh, 3 avenue Circulaire, B1180, Bruxelles
Belgium

Sunspot - Bulletin

1980, 12

Provisional Sunspot Numbers for December 1980

dependent on observations at Specola Solare Locarno,
complemented by observations at Uccle,,,
and determined at the Observatoire Royal de Belgique.

Predictions of the smoothed monthly sunspot numbers

Bruxelles, January 2, 1981

A. Koeckelenbergh

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ASSOCIAZIONE SPECOLA SOLARE TICINESE - ASST -

(fondée le 29 mai 1980)

Propositions et demandes de la part de l'ASST à l'EPFZ

- 1) Le service international du "nombre de Wolf" devrait être assumé par la Section de Physique Solaire de l'Observatoire Royal de Belgique et l'Institut d'Astronomie et d'Astrophysique de l'Université Libre de Bruxelles.
- 2) La station de Locarno, qui s'est démontrée comme la meilleure au monde du point de vue de l'homogénéité et de la qualité des observations, devrait être nommée officiellement collaborateur principal du service international du "nombre de Wolf". Les observations de son collaborateur permanent (S. Cortesi) devraient servir comme calibration de la nouvelle série (facteur de réduction $k = 0.60$).
- 3) À l'ASST devraient être accordés:
 - a) l'usage des bâtiments et des instruments de la Specola Solare, sur les bases d'un inventaire et d'un contrat valable du 1 janvier 1981.
 - b) les intérêts de la "Wolf Stiftung".
 - c) la substitution totale ou partielle du réfracteur Zeiss par l'analogue instrument de Zürich avec guidage photo-électrique automatique, dans le cas où l'instrument ne sera plus utilisé à Zürich.
 - d) le transfert dans l'archive de Locarno de toute la documentation d'observation solaire nécessaire au travail.

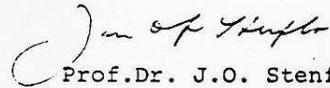
En sous-ordre au point 2), le nom de Locarno devrait figurer, comme station collaboratrice au moins, dans les publications des séries des "nombres de Wolf" provisoires et définitives. P.ex. dans les bulletins mensuels "Provisional Sunspot-Number" avec la mention: "Dependent on observations at Specola Solare Locarno, complemented by observations at Uccle".

Locarno, le 2 juin 1980

S. Cortesi

Einverstanden, Zürich, den 6. Juni 1980

Institut für Astronomie
ETH-Zentrum
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Prof. Dr. J.O. Stenflo

ETHEIDGENÖSSISCHE TECHNISCHE HOCHSCHULE
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Zürich, June 6, 1980

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Postadresse:
Institut für Astronomie
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President, IAU Commission 10
Astronomical Institute
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Czechoslovakia

Continuation of the series of Relative Sunspot Numbers

Dear Dr. Bumba,

As you know we have been carefully considering the question of continuation of the Zürich Relative Sunspot Numbers R_z . In a meeting at the Institute of Astronomy in Zürich on June 4, 1980, we have decided to support the following solution:

The responsibility for the determination of R_z will be transferred from Zürich to Brussels. Dr. A. Koeckelenbergh at the Observatoire Royal de Belgique will be responsible for the new "Sunspot Index Data Center". The connection with the past and the long-term stability of the sunspot number will be assured by the continued observations at the Specola Solare in Locarno (mainly through Mr. S. Cortesi), operated by the foundation "Associazione Specola Solare Ticinese" (ASST). The Specola Solare will be designated as the "Principal collaborator" to Brussels. In the past it has had the same function in relation to Zürich. Relative sunspot numbers have been determined in Brussels over the past four decades with a telescope of the same size as that used in Zürich and Locarno.

During the second half of 1980 all the contributing observing stations will be asked to send their observations to both Brussels and Zürich. By the end of the year the observations will be discontinued by the ETH in Zürich, and Brussels will take over full responsibility. A more detailed plan for the transfer, worked out by Dr. A. Koeckelenbergh, is enclosed.

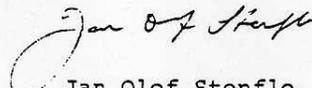
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This recommendation was adopted unanimously by the meeting, attended by myself, K. Dressler, M. Waldmeier, A. Koeckelenbergh, S. Cortesi, H. Nussbaumer, M.C.E. Huber, A. Zelenka, H.U. Keller, A.O. Benz, and M. Perrenoud. In our opinion it is an optimum solution that satisfies all the scientific requirements of securing the long-term stability of this long series of observations.

Let us know if you have any remarks or criticism of the proposed transfer. In the meantime we will go ahead with these plans.

With my best regards,

Sincerely yours,


Jan Olof Stenflo

Encl.

cc. S. Cortesi
K. Dressler
J. Eddy
E. Freitag
A. Koeckelenbergh
H. Nussbaumer
A.H. Shapley
M. Waldmeier
A. Zelenka

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Zürich, den 6. Juni 1980

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Herrn Dr. E. Freitag
Betriebsdirektor der ETHZ
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Betr.: Zukunft der Sonnenfleckenrelativzahlen

Sehr geehrter Herr Dr. Freitag,

Die Frage der Zukunft der Zürcher Sonnenfleckenrelativzahlen ist in einer Sitzung am Institut für Astronomie am 4.6.1980 besprochen worden. Unter anderen waren Prof. Waldmeier, Dr. Koeckelenbergh (Brüssel) und Herr Cortesi (Locarno) anwesend. Eine vollständige Teilnehmerliste liegt bei.

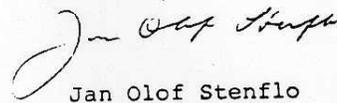
Der beigefügte Vorschlag von Herrn Cortesi wurde eingehend diskutiert und bereinigt, und es wurde einstimmig beschlossen, diesen Vorschlag der Schulleitung zu empfehlen. Gemäss dem Vorschlag wird die Verantwortlichkeit für die Bestimmung der Sonnenfleckenrelativzahlen von Brüssel übernommen, wobei die Specola Solare in Locarno offiziell als "collaborateur principal" bezeichnet wird. Die Beobachtungen in Locarno werden von der Associazione Specola Solare Ticinese (ASST) fortgesetzt, und zwar ohne Beziehung zur ETH. ASST kann die Räume und Instrumente der Specola Solare benutzen. Der ASST sollen auch die Zinsen der Wolf Stiftung zur Verfügung stehen. Die Relativzahlbestimmungen an der ETH werden per 31. Dezember 1980 beendet.

Ich sende das vorgeschlagene Programm für die Weiterführung der Relativzahlen gleichzeitig an Herrn Dr. V. Bumba, Präsident der Kommission 10 (Solar Activity) der Internationalen Astronomischen Union. Die beigefügte Briefkopie enthält das detaillierte Programm, das von Herrn Dr. Koeckelenbergh ausgearbeitet worden ist.

.../...

Wir sind der Ansicht, dass wir mit der vorgeschlagenen Lösung alle Forderungen wissenschaftlicher und regional-politischer Natur optimal erfüllen können. Ich wäre Ihnen dankbar, wenn Sie mir und Herrn Cortesi mitteilen könnten, ob Sie mit dieser Lösung einverstanden sind.

Mit freundlichen Grüßen


Jan Olof Stenflo

Beilagen:

Teilnehmerliste,
Antrag an die ETH von Herrn Cortesi,
Kopie vom Brief mit Beilage an Herrn Dr. Bumba.

cc. Alle Konferenzteilnehmer

Teilnehmer der Konferenz über die Weiterführung der
Sonnenfleckenrelativzahlen, Institut für Astronomie,

4.6.1980

J.O. Stenflo)	Institutsleitung
K. Dressler		
M. Waldmeier		Universität Zürich
A. Koeckelenbergh		Observatoire Royal de Belgique, Brüssel
S. Cortesi		Specola Solare, Locarno
A. Zelenka)	Sternwarte
H.U. Keller		
M.C.E. Huber)	Gruppe für Atom- und Astrophysik
H. Nussbaumer		
A.O. Benz)	Gruppe für Radioastronomie
M. Perrenoud		