

INTERNATIONAL STANDARD

**ISO
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Solar energy — Calibration of field pyrheliometers by comparison to a reference pyrheliometer

*Énergie solaire — Étalonnage des pyrhéliomètres de terrain par
comparaison à un pyrhéliomètre de référence*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 9059 was prepared by Technical Committee ISO/TC 180, *Solar energy*.

Annexes A and B of this International Standard are for information only.

Introduction

This International Standard is one of a series of International Standards specifying methods and instruments for the measurement of solar radiation.

Pyrheliometers are used to measure direct solar irradiance. The data collected are used for

- the determination of the efficiency of concentrating collectors,
- the determination of the direct beam resource for concentrating solar energy devices as well as for determining their siting, sizing, etc., and
- the accurate determination of hemispherical solar radiation as a sum of the measured direct solar and diffuse solar radiation.

The calibration hierarchy of pyrheliometers specified in this International Standard follows the scheme developed by the World Meteorological Organization (WMO) [1], and the classification and specification used are prescribed in ISO 9060. During the elaboration of this International Standard, extensive reference was made to ASTM 816-81 [2].