

# ISO/TR 23989:2020-01 (E)

Space environment (natural and artificial) - Operational estimation of the solar wind energy input into the Earth's magnetosphere by means of the ground-based magnetic polar cap (PC) index

---

Contents	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Symbols and abbreviated terms.....	2
5 General parameters.....	3
5.1 Solar wind parameters determining the magnetosphere state.....	3
5.2 Magnetic activity in the polar cap and its relation to the solar wind parameters.....	3
5.3 The <i>PC</i> -index: method of derivation.....	4
5.4 Relationship between the <i>PC</i> index and magnetic substorms and storms.....	4
5.5 Relation of the <i>PC</i> index to the interplanetary electric field, $E_{KL}$ .....	5
5.6 <i>PC</i> index as a verifier of the solar wind parameters presented at OMNI website.....	5
5.7 <i>PC</i> index as a proxy of the solar wind energy input into the magnetosphere.....	6
5.8 <i>PC</i> index as a standard for calibration of the magnetospheric disturbances power.....	6
6 Availability of the <i>PC</i> index.....	6
6.1 Production of the <i>PC</i> index.....	6
6.2 Access to the <i>PC</i> data.....	6
7 Compliance criteria for use of the <i>PC</i> index as a calibrator of the magnetospheric disturbance.....	7
7.1 Rationale.....	7
7.2 Reporting.....	7
7.3 Documenting.....	7
7.4 Publishing.....	7
7.5 Archiving.....	7
Annex A (informative) Resolution No. 3 of XXII Scientific Assembly of International Geomagnetism and Aeronomy Association (12th IAGA), Merida, Mexico, August 2013: <i>PC</i> index.....	8
Annex B (informative) Map of spreading of the auroral absorption calibrated by the <i>PC</i> index value.....	9
Bibliography.....	10