

# ISO 6980-2:2023-11 (E)

## Nuclear energy - Reference beta-particle radiation - Part 2: Calibration fundamentals related to basic quantities characterizing the radiation field

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
1	<b>Scope .....</b>	<b>1</b>
2	<b>Normative references .....</b>	<b>1</b>
3	<b>Terms and definitions .....</b>	<b>1</b>
4	<b>Symbols and abbreviated terms and reference and standard test conditions .....</b>	<b>3</b>
5	<b>Calibration and traceability of reference radiation fields .....</b>	<b>6</b>
6	<b>General principles for calibration of betaparticle radiation fields .....</b>	<b>6</b>
6.1	<b>General .....</b>	<b>6</b>
6.2	<b>Scaling to derive equivalent thicknesses of various materials .....</b>	<b>7</b>
6.3	<b>Characterization of the radiation field in terms of penetrability .....</b>	<b>8</b>
7	<b>Calibration procedures using an extrapolation chamber .....</b>	<b>8</b>
7.1	<b>General .....</b>	<b>8</b>
7.2	<b>Determination of the reference beta-particle absorbed-dose rate .....</b>	<b>9</b>
8	<b>Calibration with ionization chambers .....</b>	<b>10</b>
9	<b>Measurements at non-perpendicular incidence .....</b>	<b>10</b>
10	<b>Uncertainties .....</b>	<b>10</b>
<b>Annex A (normative) Reference conditions and standard test conditions .....</b>		<b>19</b>
<b>Annex B (informative) Extrapolation chamber measurements .....</b>		<b>21</b>
<b>Annex C (informative) Extrapolation chamber measurement correction factors .....</b>		<b>25</b>
<b>Annex D (informative) Example of an uncertainty analysis .....</b>		<b>37</b>
<b>Bibliography .....</b>		<b>41</b>