

# ISO 20785-1:2006-04 (E)

## Dosemetry for exposures to cosmic radiation in civilian aircraft - Part 1: Conceptual basis for measurements

---

| <b>Contents</b>              |   | <b>Page</b> |
|------------------------------|---|-------------|
| Foreword .....               |   | iv          |
| Introduction .....           |   | v           |
| <b>1</b>                     | <b>Scope .....</b>  | <b>1</b>    |
| <b>2</b>                     | <b>Normative references .....</b>   | <b>1</b>    |
| <b>3</b>                     | <b>Terms, definitions and symbols .....</b>   | <b>1</b>    |
| <b>3.1</b>                   | <b>Quantities and units .....</b>   | <b>1</b>    |
| <b>3.2</b>                   | <b>Atmospheric radiation field .....</b>  | <b>5</b>    |
| <b>4</b>                     | <b>General considerations .....</b>   | <b>7</b>    |
| <b>4.1</b>                   | <b>General description of the cosmic radiation field in the atmosphere .....</b>  | <b>7</b>    |
| <b>4.2</b>                   | <b>General calibration considerations for the dosemetry of cosmic radiation fields in aircraft .....</b>  | <b>9</b>    |
| <b>4.3</b>                   | <b>Conversion coefficients .....</b>  | <b>11</b>   |
| <b>5</b>                     | <b>Dosemetric devices .....</b>   | <b>11</b>   |
| <b>5.1</b>                   | <b>Introduction .....</b>   | <b>11</b>   |
| <b>5.2</b>                   | <b>Active devices .....</b>   | <b>11</b>   |
| <b>5.3</b>                   | <b>Passive devices .....</b>  | <b>14</b>   |
| <b>Annex A (informative)</b> | <b>Representative particle fluence energy distributions for the cosmic radiation field at flight altitudes for solar minimum and maximum conditions and for minimum and maximum vertical cut-off rigidity .....</b> | <b>17</b>   |
| <b>Bibliography .....</b>    |   | <b>21</b>   |