

# ISO 11929-3:2025-12 (E)

## Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation - Fundamentals and application - Part 3: Applications to unfolding methods

---

<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>2</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>4</b>	<b>Quantities and symbols .....</b>	<b>6</b>
<b>5</b>	<b>Evaluation of a measurement using unfolding methods .....</b>	<b>8</b>
5.1	General aspects .....	8
5.2	Models of unfolding and general uncertainty evaluation .....	8
5.3	Unfolding as a sub-model .....	10
5.4	Input quantities and their uncertainties .....	10
5.5	Parameters of unfolding .....	11
5.6	Procedure for unfolding .....	12
5.7	Modification for Poisson distributed count numbers for unfolding .....	14
5.8	Evaluation of the primary results and their associated standard uncertainties .....	15
5.9	Standard uncertainty as a function of an assumed true value of the measurand .....	16
5.10	Decision threshold, detection limit and assessments .....	17
5.10.1	Specifications .....	17
5.10.2	Decision threshold .....	17
5.10.3	Detection limit .....	18
5.10.4	Assessments .....	18
5.11	Coverage interval and the best estimate and its associated standard uncertainty .....	18
5.11.1	General aspects .....	18
5.11.2	The probabilistically symmetric coverage interval .....	19
5.11.3	The shortest coverage interval .....	19
5.12	Documentation .....	19
Annex A (informative)	Correlations and covariances .....	21
Annex B (informative)	Spectrum unfolding in nuclear spectrometric measurement .....	24
Bibliography .....		35