

# ISO 24013:2023-06 (E)

## Optics and photonics - Lasers and laser-related equipment - Measurement of phase retardation of optical components for polarized laser radiation

---

### Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>1</b>
<b>5 Measurement principle</b> .....	<b>2</b>
<b>6 Preparation of test sample and measuring arrangement</b> .....	<b>3</b>
6.1 General.....	3
6.2 Laser beam preparation.....	3
6.3 Sample adjustment and system calibration.....	3
6.3.1 Reflective samples.....	3
6.3.2 Possible alignment procedure.....	4
6.3.3 Transmissive samples.....	4
6.4 Detection system.....	4
6.4.1 General.....	4
6.4.2 Polarization analyser.....	4
6.4.3 Power detector.....	4
<b>7 Test procedure</b> .....	<b>5</b>
7.1 Test procedure for zero or $\pi$ phase retardation .....	5
7.1.1 General.....	5
7.1.2 Simple test procedure for zero absorptance difference.....	5
7.1.3 Test procedure for non zero absorptance difference .....	5
7.2 Test procedure for $\pi/2$ phase retardation.....	5
7.2.1 General.....	5
7.2.2 Simple test procedure for zero absorptance difference.....	5
7.2.3 Test procedure for non zero absorptance difference .....	5
<b>8 Evaluation</b> .....	<b>6</b>
8.1 General.....	6
8.2 Evaluation for zero phase retardation .....	6
8.2.1 Evaluation for zero absorptance difference.....	6
8.2.2 Evaluation for non-zero absorptance difference.....	6
8.3 Evaluation for $\pi/2$ phase retardation.....	6
8.3.1 Evaluation for zero absorptance difference.....	6
8.3.2 Evaluation for non-zero absorptance difference .....	6
<b>9 Test report</b> .....	<b>6</b>
<b>Annex A (informative) Theoretical background</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>16</b>