

Verification of [Wavelength Accuracy] and [Wavelength Repeatability] using mercury emission line spectrum

Introduction

For high-precision CD spectrum measurement, [Wavelength Accuracy] and [Wavelength Repeatability] are important parameter to obtain precise spectrum.

J-1000 CD spectrometer has high [Wavelength Accuracy] and [Wavelength Repeatability], and these features can realize high-precision CD spectrum measurement.

In this application data, [Wavelength Accuracy] and [Wavelength Repeatability] are verified by measuring the 253.652 nm emission line spectrum of the mercury lamp, which is installed in J-1000 series CD spectrometer for validation.

Keyword: Wavelength accuracy, Wavelength repeatability, Mercury lamp

Experimental Condition

The mercury lamp was turned up in [Administrative Tools] window. And the 253.652 nm mercury lamp emission line spectrum was measured five times by [Spectra Measurement] program.

Photometric mode:	DC	HT voltage:	Manual (300 V)
Measurement range:	250-260 nm	Data acquisition interval:	0.025 nm
Response:	0.125 sec	Scan speed:	10 nm/min

Results

Figure 1 and Table 1 show the results of five times repeat measurement of the 253.652 nm mercury lamp emission line spectrum. Five spectra show good agreement, so high [Wavelength Accuracy] and [Wavelength Repeatability] is verified.

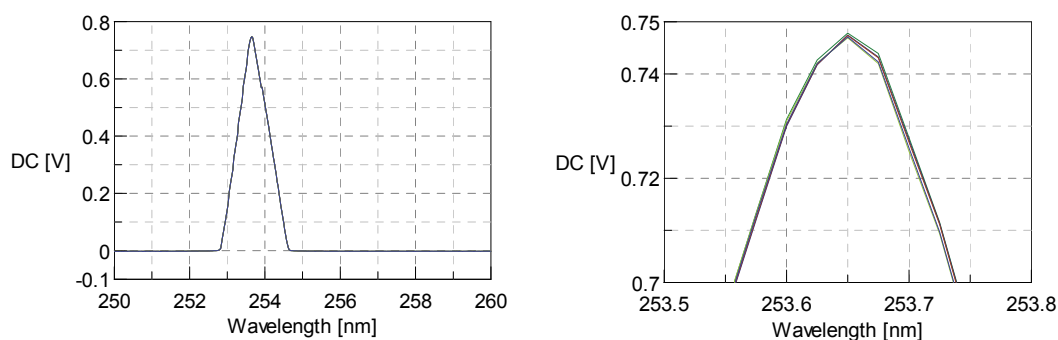


Fig. 1 Mercury lamp emission line spectra (right: Zoom view)

Repeat count	Peak wavelength
1	253.650 nm
2	253.650 nm
3	253.650 nm
4	253.650 nm
5	253.650 nm

Table 1. Wavelength repeatability