Vernier UV-VIS Optical Fiber

(Order Code VSP-UV-FIBER)

The Vernier UV-VIS Optical Fiber is an accessory for the Vernier UV-VIS Spectrophotometer, allowing it to measure light emissions.

Sample Experiments

- Measure the emissions from a gas discharge tube, LED, lamp, or light passing through a filter.

Connect the Optical Fiber

The Optical Fiber has a rectangular insert designed to fit into the cuvette holder of the Vernier UV-VIS Spectrophotometer. The insert is keyed so that it only fits in one direction, preventing UV light exposure to the user. One side of the insert has a tiny circular window that lines up with the detector in the Vernier UV-VIS Spectrophotometer.

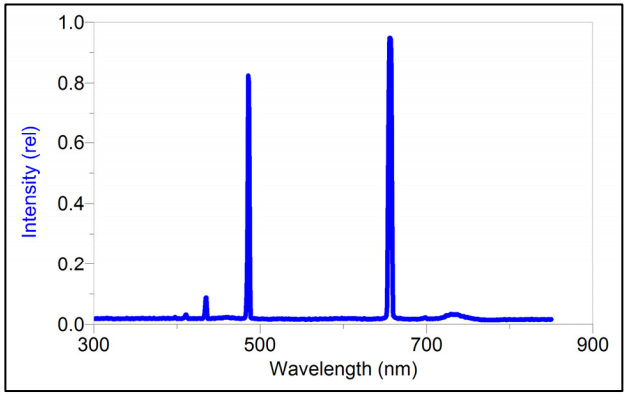
Measuring an Emission Spectrum

1. Insert the Optical Fiber into the Vernier UV-VIS Spectrophotometer so that the cuvette insert fits into the keyed region. **Note:** The Power switch should be in the OFF position to measure emission spectra.
2. Change units to the relative units of intensity. Intensity is a relative measure with a range of 0–1. **Note:** the spectrophotometer is not calibrated for measuring intensity.
   - If using a computer, choose Change Units ► Spectrometer ► Intensity from the Experiment menu in Logger *Pro*®.
   - If using a LabQuest® 2 or original LabQuest, go to the Meter screen in LabQuest App. Choose Change Units ► USB: Spectrometer ► Intensity from the Sensors menu.
3. Aim the tip of the optical fiber cable at a light source. Start data collection. Stop to end data collection.

If the spectrum maxes out (flat and wide peaks at a value of 1), increase the distance between the light source and the tip of the optical fiber cable or reduce the sample time (see below).

To increase the sample time, or if data collection is unusually slow, choose Set Up Sensors ► Spectrometer: 1 from the Experiment menu. Set the Sample Time (begin with 75 ms, with subsequent reductions by 20 ms) to a suitable value and decrease the Samples to Average to 1.

CAUTION: The Optical Fiber is made of plastic and can melt if overheated. Take care when doing flame tests that the tip of the fiber stays several inches from the flame.



Hydrogen emission spectrum using the Vernier UV-VIS Spectrophotometer and the Vernier UV-VIS Optical Fiber

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