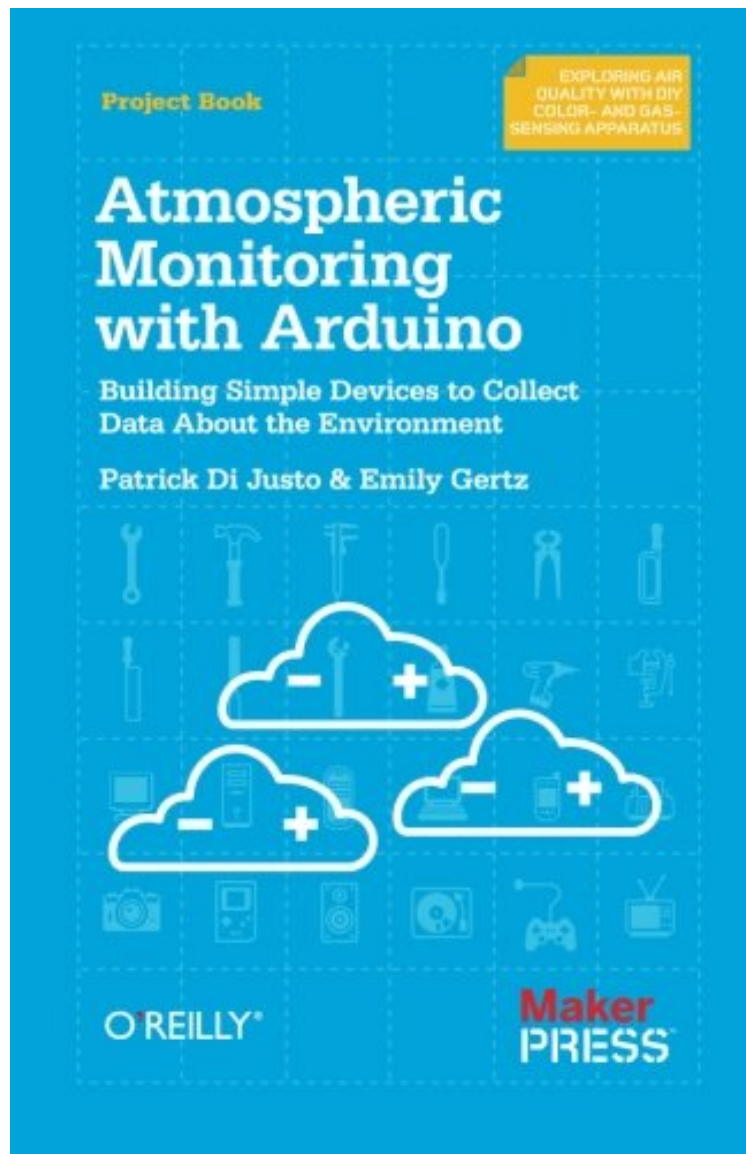


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Atmospheric Monitoring with Arduino: Building Simple Devices to Collect Data About the Environment

Patrick Di Justo, Emily Gertz

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Patrick Di Justo, Emily Gertz : Atmospheric Monitoring with Arduino: Building Simple Devices to Collect Data About the Environment before purchasing it in order to gage whether or not it would be worth my time, and all praised Atmospheric Monitoring with Arduino: Building Simple Devices to Collect Data About the Environment:

0 of 0 people found the following review helpful. Incorrect Optical ScienceBy John F DavisSo far I have only done chapter 4, but I am already concerned about the scientific credibility of the book. (I am evaluating it for a possible science camp next summer for teenagers.) This chapter tells how to build an LED sensitivity tester. The tester is to be used for measuring and recording the peak wavelength response of LEDs for use as detectors in a photometer in the following chapters.The tester uses a tricolor RGB LED to shine light of various mixed intensities of red, green, and blue. These RGB values can indeed create a full spectrum of perceived colors for the human eye. However, they CANNOT create the wavelengths of the intermediate colors; they are useless for direct spectral analysis of LED detectors. Besides being bad science,this bogus testing method invalidates the results of all the following chapters. Those chapters may be suitable for demonstrating how you would use a calibrated photometer to make atmospheric measurements, but the actual readings will be inaccurate.After I try the gas detectors, I will update this review.10 of 10 people found the following review helpful. Splendid idea for a bookBy KD7EIRI have been using Arduino (Mega 2560) for a few months now. I have several books on programming, but this book is the antithesis of programming. That's what makes it so great! This is a book of IDEAS. Practical projects that leave the typical "blink an LED" ideas in the dust.If you are looking for practical, useful, down to earth projects to do with your Arduino, this book is your destination.One caveat, though. Figure 1-4 on page 8 shows an LED connected to pin 13 and ground, with no resistor. You should ALWAYS use a resistor between an LED and ground. Your LED's and your Arduino will both thank you, and both will enjoy a longer life.2 of 2 people found the following review helpful. For Experimenters and/or EnvironmentalistsBy T. LassagneThis is a short, reasonably priced book packed with information. It describes two instruments which can be made with an Arduino: a tropospheric gas detector and a photometer. Arduino code is included in the book and can also be downloaded from a web site. The book begins with "The World's Shortest Electronics Primer" and ends with an interesting chapter on the scientific method. There are several books on Arduino projects, and this is a friendly one.

Makers around the globe are building low-cost devices to monitor the environment, and with this hands-on guide, so can you. Through succinct tutorials, illustrations, and clear step-by-step instructions, you'll learn how to create gadgets for examining the quality of our atmosphere, using Arduino and several inexpensive sensors.Detect harmful gases, dust particles such as smoke and smog, and upper atmospheric hazesubstances and conditions that are often invisible to your senses. You'll also discover how to use the scientific method to help you learn even more from your atmospheric tests.Get up to speed on Arduino with a quick electronics primerBuild a tropospheric gas sensor to detect carbon monoxide, LPG, butane, methane, benzene, and many other gasesCreate an LED Photometer to measure how much of the sun's blue, green, and red light waves are penetrating the atmosphereBuild an LED sensitivity detectorand discover which light wavelengths each LED in your Photometer is receptive toLearn how measuring light wavelengths lets you determine the amount of water vapor, ozone, and other substances in the atmosphereUpload your data to Cosm and share it with others via the Internet"The future will rely on citizen scientists collecting and analyzing their own data. The easy and fun gadgets in this book show everyone from Arduino beginners to experienced Makers how best to do that."--Chris Anderson, Editor in Chief of Wired magazine, author of Makers: The New Industrial Revolution (Crown Business)

From the AuthorA QA with the Authors of Atmospheric Monitoring with Arduino