

Open Radar Cookbooks for All

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The Atmospheric Radiation Measurement (ARM) facility is a multi-laboratory, U.S. Department of Energy (DOE) scientific user facility that collects atmospheric data from around the world, and makes this data freely available with the goal of improving climate models. ARM is just one component of the Open Radar Science community, which supports the development of open source software (OSS) to enable radar science. One common challenge from working with this data is finding reproducible workflows that utilize OSS, such as [Py-ART](#) (Python ARM Radar Toolkit). While there are examples within the Py-ART documentation, there is a serious gap in documented end-to-end workflows involving the Py-ART library. An example of an end-to-end workflow here is reading in the data, applying some correction, and plotting the data. Another piece missing from those examples are links to library-specific documentation (e.g. Matplotlib, NumPy), with tutorials specifically developed for the Geoscience community. Py-ART is also just one package in the broad ecosystem, requiring education on other components of the open radar stack such as LROSE or wradlib.

Within this presentation, we highlight how we have partnered with Project Pythia (<https://projectpythia.org>) to assemble open radar cookbooks, which provide the educational materials mentioned previously. These cookbooks have been used at various workshops and tutorials, including the ARM/ASR Open Science Workshop, the European Weather Radar Conference (ERAD), the AMS Annual Meeting, and this conference (AMS Radar Meeting 2023). We will expand upon how important it is to partner with existing educational initiatives such as, Project Pythia, to prevent not-invented-here syndrome and contribute to the sustainability of such initiatives. Educators are free to use these cookbooks in the classroom, or at educational workshops. We will also detail our workforce development program within the

open radar community, and how working with this new initiative has enabled more open science outreach and community building.