SeaSonde Radial Suite® Software Release 21
- Product Overview

CODAR is pleased to announce the latest version of Radial Suite Software - Release 21 (R21) – is now available.

Highlights of Release 21 include:

Compatibility with Latest Apple Computers & OS

R21 is required for running on the latest macOS 12 (Monterey) and Apple's new M1 chip and is backward compatible with your existing Intel macs running macOS 10.13.6 (High Sierra) and later – see the R21 Prerequisites & FAQ guide for more detail.

Improved Quality Assurance (QA) for Currents

Improvements have also been made to first order boundary determination and the split Bragg peak processing option for increased quality of radial currents and reduced outliers. A new QA step has also been added to the spectra processing chain that will exclude from processing the signals that do not match any part of the measured antenna pattern, significantly reducing impacts from interfering signals that do not arrive from the sea surface direction.

Wave Processing Gets its Own Spectra

Optimizing Doppler processing parameters in the same spectra file for both current and wave processing can be tricky. Local ocean conditions can require different settings for Doppler resolution, spectra averaging times and temporal interval for waves vs. currents. The Radial (currents) Setup and Waves Setup are now separated into two different panels, with wave processing and radial processing each having their own optimized spectra files.

Doppler Spectra Get Discrete

The Fast Fourier Transform (FFT) has been the standard for processing Doppler spectra for oceanographic HFR. Despite its computational power and efficiency, Doppler FFTs are limited to sweep numbers of powers of 2. For instance, Long Range (4-5 MHz) systems typically use a 1024 sweep FFT which takes over 17 minutes at 1 Hz sweep rate. The next FFT shorter is 512 seconds (~8.5 minutes), which cuts Doppler resolution by half and the next interval higher is over 34 minutes. SeaSonde Doppler spectra processing now allows for Discrete Fourier Transform (DFT) processing. DFT are mostly powers of 2 with a multiplier of 1, 3, 5 and 7. DFT spectra can be output in between the powers of 2 such as 640 s, 768s or 966s, providing greater flexibility and optimization for local ocean conditions and data needs.

New SeaDisplay Visualization Features are not just Prettier, but also improve Productivity

Several improvements have been made to SeaDisplay that will be appreciated by radar operators and those doing data analysis. Side-by-side plots of radial vector maps, density maps and quality factors allow the user to step through and compare the same data processed differently or data collected over different time periods. The option to save side-by-side grids comparison as a scalable PDF image and/or as a movie facilitates documenting changes in conditions or choices in processing parameters. SeaDisplay is now compatible with Apple Dark Mode and the new outline feature on the radial vectors makes them much more visible against a variety of colored backgrounds, so it is, in fact, prettier.

Speedier Processing and Graphics

Behind-the-scenes changes include all code being rewritten and compiled for 64-bit processing and all GUI applications are rewritten in Cocoa using Quartz graphics for faster processing, responsiveness and an overall crisper, cleaner look.

Reduced CSS File Format Saves Disk Space & Transfer Time

The CSS files logged in R21 are stored, by default, in the reduced cross spectra file format which are smaller by a factor of as much as 2:1. This leads to savings in the disk space usage due to the smaller size of the CSS files, allowing storage of higher quantity of files on the same disk space and faster data transfer.

Requirements:

· Operation of Radial Suite Release 21 requires a SeaSonde licensing certificate file matched to the computer on which it is running. · Connectivity: The computer must be connected with Internet access for the following features of Radial Suite: Radial Web Server, automatic data transfer to the Central Management / Data Combining Station and best remote technical support. See "**Radial Suite Release 21 Prerequisites and Frequently Asked Questions (FAQ)" document** for important requirement details. More information can be found in the Radial Suite Install Guide and other technical documentation posted in the CODAR web site Support area. Contact CODAR support or local service partner for further information and to confirm compatibility with computer, OS and other software packages intended to run on same computer.