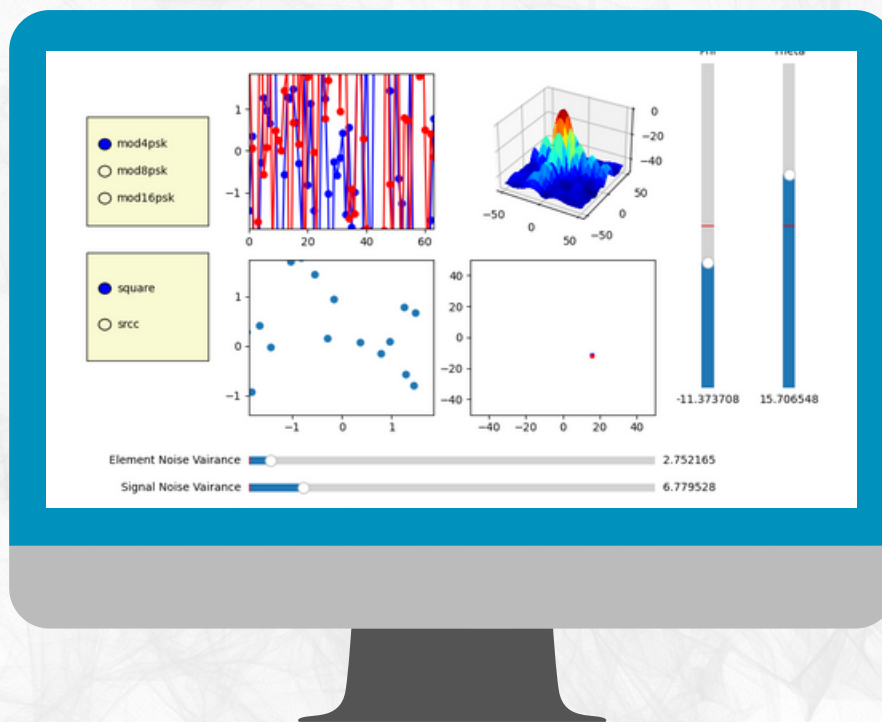# Angle-of-Arrival Estimation Using Antenna Arrays

Optical and Electronic Technologies - OET

Python code to illustrate and explore the design space of signal Angle-of-Arrival (AoA), based on IQ samples and the Bartlett algorithm, using planar antenna arrays. A planar array is composed of homogeneous antenna elements, which all receive replicas of a given signal.

The co-variance matrix between the replicas is used to extract a pseudo-power spectrum, whose peak represents the incident azimuth and elevation angles. The demonstrator illustrates this for arrays of different sizes, subject to configurable levels of uncorrelated noise for each matrix element.

This demonstrator is the result of the development work of the STRx project.

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