Amplitude Phase Shift Keying

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Contents

***Abstract*—This module explains about the comparative study of M-array Phase Shift keying and M-array Amplitude Phase Shift Keying.**

1 QPSK

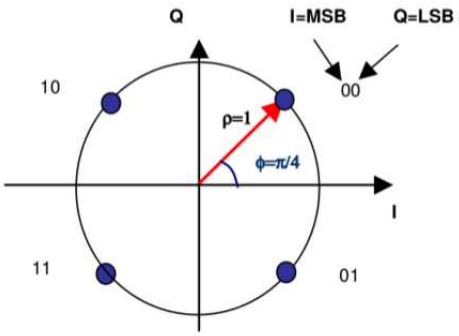

Fig. 1: QPSK Constellation Diagram

$$X = Re^{i\theta} = Rcos(\theta) + iRsin(\theta)$$

Where R and θ depends upon the positon of the constalation symbol accounding polar coordinate System.

$$N = A + iB$$

Here, N is the complex AWGN noise and A, B are random variable.

$$Y = X + N = (Rcos\theta + A) + i(Rsin\theta + B)$$

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Y is the received signal from the channel.

```
wget https://raw.githubusercontent.com/PrasannaIITH/APSK/master/codes/QPSK.py
```

2 8PSK

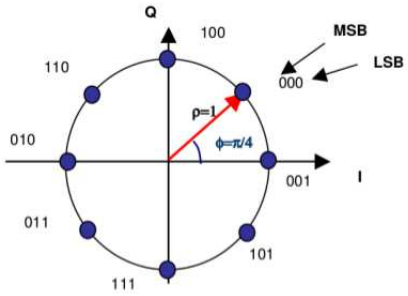

Fig. 2: 8PSK Constellation Diagram

```
wget https://raw.githubusercontent.com/PrasannaIITH/APSK/master/codes/8PSK.py
```

3 16APSK

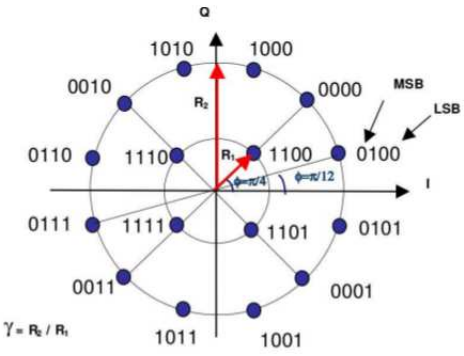

Fig. 3: 16APSK Constellation Diagram

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    .com/PrasannaIITH/APSK/master/
    codes/16APSK.py
```

4 32APSK

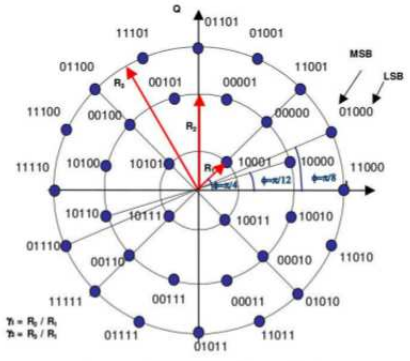

Fig. 4: 32APSK Constellation Diagram