1. File Format
   1. Description
      1. Files consist of two types: Single Pulse Train and Interleaved Pulse Train.
         1. Single Pulse Train files consist of a series of pulses that form a single, uninterrupted pulse train.
         2. Interleaved Pulse Train files take 2 to 5 Single Pulse Train files and interleaves them, basing everything off Time of Arrival.
      2. The primary identifying parameter is the PRI (delta between TOA of subsequent pulses). While in these examples the Pulse Width and Power are static, in real operation these may fluctuate, such that they do not work well for identification in all cases. The Angle is also static in these examples, but for the purpose of this project, assume that any pulses that are separated by more than +/-30 degrees are NOT part of the same train.
   2. Format
      1. Line 1: Line 1 should be ignored. It is used for simulation purposes.
      2. Line 2: RUNID,BUFFERTIME,COUNT,COLLECTTIME,BAND
         1. RUNID: The Buffer Number of the subsequent pulses.
         2. BUFFERTIME: This is a value for internal use in a simulator.
         3. COUNT: Number of pulses in the Buffer.
         4. COLLECTTIME: This is a value for internal use in a simulator.
         5. BAND: This is a value for internal use in a simulator.
      3. Line 3: TOA,Delta TOA,PW,power,angle
         1. TOA: Time of Arrival in us (microseconds).
         2. Delta: Time Delta between current TOA and previous TOA, this forms a PRI. In a file containing a single pulse train, these consist of the PRIs of that train. In an interleaved file, these may or may not be a valid PRI of any interleaved pulse train.
         3. PW: Pulse Width in us.
         4. Power: Power in Volts.
         5. Angle: Angle in degrees. Angles are azimuth angles, between 0 and 359 degrees.
      4. Subsequent Lines:
         1. Buffer Header: The overall list of pulses is split into Buffers of 1024 pulses. Each Buffer of 1024 pulses has a header that signals the start of that Buffer. The format is given in Line 1 of the file.
         2. Buffer Data: After the Buffer Header, pulse data is reported. The format of the pulse data is given in Line 2.
2. Delivered File Descriptions
   1. Stable1.sim: Stable Pulse Train with 255 us PRI at 40 degrees.
   2. Stable2.sim: Stable Pulse Train with 430 us PRI at 56 degrees.
   3. Stable3.sim: Stable Pulse Train with 320 us PRI at 5 degrees.
   4. Stagger1.sim: Stagger Pulse Train (2 Level) with 230/690 PRIs at 46 degrees.
   5. Stagger2.sim: Stagger Pulse Train (4 Level) with 162/297/513/621 PRIs at 57 degrees.
   6. Cycler1.sim: Cycler Pulse Train (5 Pulses repeated 30 times each) at 34 degrees.
   7. Cycler2.sim: Cycler Pulse Train (8 Pulses repeated 10 times each) at 3 degrees.
   8. Jitter1.sim: Jitter Pulse Train (564 base PRI with 5% deviation) at 43 degrees.
   9. Jitter2.sim: Jitter Pulse Train (368 base PRI with 10% deviation) at 37 degrees.
   10. Jitter3.sim: Jitter Pulse Train (1285 base PRI with 8% deviation) at 52 degrees.
   11. Interleaved1: Stable1, Stable2
   12. Interleaved2: Stable3, Stagger1
   13. Interleaved3: Stable1,Stable2,Stagger1,Stagger2
   14. Interleaved4: Stagger2,Cycler1
   15. Interleaved5: Cycler1,Cycler2
   16. Interleaved6: Stable3,Stagger2,Cycler1,Jitter2
   17. Interleaved7: Jitter1,Jitter2,Jitter3
   18. Interleaved8: Cycler1,Cycler2,Jitter1,Jitter2,Jitter3