\[ F O_{2M \times p} \]

Particle R \rightarrow NR

If NR > 0 and NS = 0

Particle S \rightarrow NS

Resampling engine

\[ WM_{M \times n} \]
- Weight memory
\[ RFM_{M=2^n} \]
- Replication factor memory

Resampler

Weight Sum

Weight calculation engine

Weight Calculation

Observations

Weight Sum

Output engine

\[ X_{1/M} \]

Accumulator

Output

Random Generator

The Sample engine