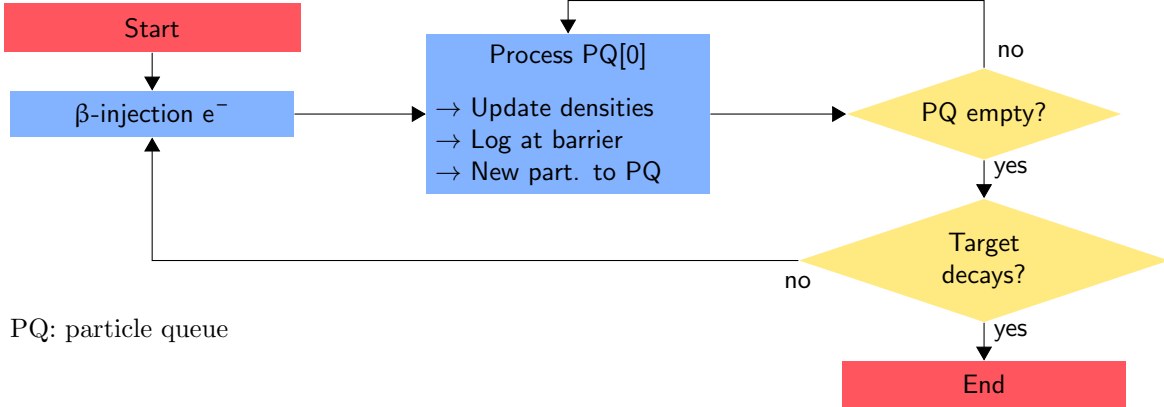

PQ: particle queue