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In[1]:= Module[{byte1Seed = {1, 4}, byte1Seq, twinPrimes, isPrime, bbpDelta, limit = 5000,
  n = 3, hTarget = 0.35, collapsePoints = {}, hScores = {}, hFunctionBase2},
  (*Byte1 sequence:extended recursion using binary-length deltas*)
  byte1Seq = NestList[Function[{pair},
    Module[{diff = Abs[pair[[1]] - pair[[2]]], len}, len = IntegerLength[diff, 2];
    Append[pair, len]]], byte1Seed, 300][[-1]];
  (*Simple primality check*) isPrime[n_] := PrimeQ[n];
  (*BBP-modulated twin prime step function*)
  bbpDelta[n_] := Floor[Total[Table[16^(1 - k) / (8 k + Mod[n, 7] + 1), {k, 1, 4}]] + 1;
  (*Generate twin primes with BBP skips*)
  twinPrimes = Reap[While[n < limit, If[isPrime[n] && isPrime[n + 2], Sow[{n, n + 2}]]];
  n += bbpDelta[n];]][[2, 1]];
  (*Define harmonic match score in base-2*)
  hFunctionBase2[tp_] := Module[{digits, overlap, match}, digits = IntegerDigits[tp[[1]], 2];
  overlap = Take[byte1Seq, Length[digits]];
  match = Count[MapThread[Equal, {digits, overlap}], True];
  N[match / Length[digits]]];
  (*Score and detect collapse zones*)
  Do[Module[{h = hFunctionBase2[pair]}, AppendTo[hScores, {Mean[pair], h}];
  If[Abs[h - hTarget] < 0.15, AppendTo[collapsePoints, {Mean[pair], 1}]]];,
  {pair, twinPrimes}];
  (*Overlay all scores and collapse points*) Show[ListPlot[hScores, PlotStyle -> Blue,
  AxesLabel -> {"Twin Prime Midpoint", "H(t) Match Score"}, PlotLegends -> {"H(t) Score"}],
  ListPlot[collapsePoints, PlotStyle -> {Red, PointSize[Medium]},
  PlotLegends -> {"Collapse Zone"}]]]

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