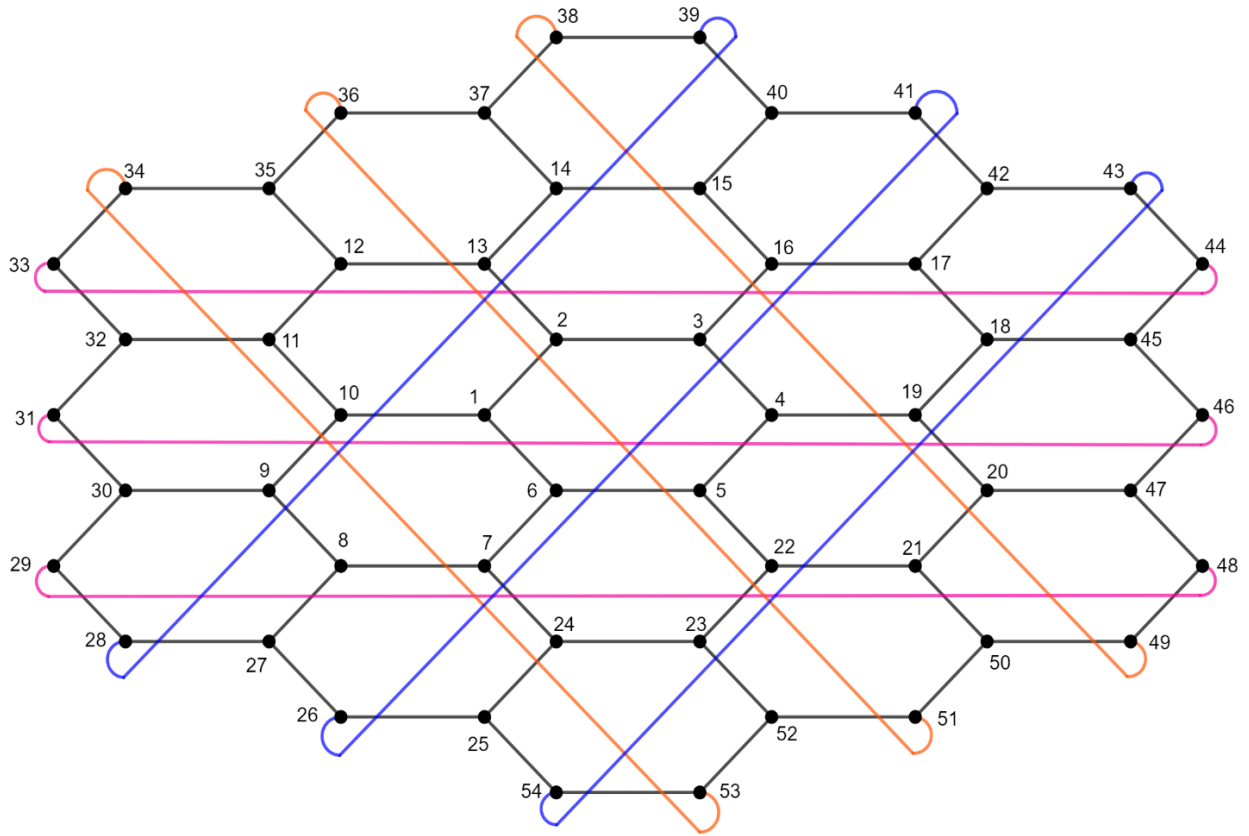


## Honeycomb Torus Network of dimension three $HCT(3)$



Metric Dimension - 4

BIGS Index – 243

Visit: <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003606611-8/almost-deterministic-algorithm-finding-metric-dimension-bigs-index-honeycomb-torus-networks-bright-libin-raj-simon?context=ubx>

Extracted Metric Bases using BIGS algorithm

- |                     |                     |
|---------------------|---------------------|
| 1. {1, 4, 28, 43}   | 11. {1, 12, 26, 43} |
| 2. {1, 4, 28, 49}   | 12. {1, 12, 26, 49} |
| 3. {1, 4, 34, 43}   | 13. {1, 18, 36, 43} |
| 4. {1, 4, 34, 49}   | 14. {1, 18, 36, 49} |
| 5. {1, 8, 18, 43}   | 15. {1, 20, 26, 43} |
| 6. {1, 8, 18, 49}   | 16. {1, 20, 26, 49} |
| 7. {1, 8, 36, 43}   | 17. {1, 28, 34, 43} |
| 8. {1, 8, 36, 49}   | 18. {1, 28, 34, 49} |
| 9. {1, 12, 20, 43}  | 19. {2, 5, 33, 48}  |
| 10. {1, 12, 20, 49} | 20. {2, 5, 33, 54}  |

21. {2, 5, 39, 48}  
22. {2, 5, 39, 54}  
23. {2, 11, 21, 48}  
24. {2, 11, 21, 54}  
25. {2, 11, 41, 48}  
26. {2, 11, 41, 54}  
27. {2, 15, 23, 48}  
28. {2, 15, 23, 54}  
29. {2, 15, 31, 48}  
30. {2, 15, 31, 54}  
31. {2, 21, 41, 48}  
32. {2, 21, 41, 54}  
33. {2, 23, 31, 48}  
34. {2, 23, 31, 54}  
35. {2, 33, 39, 48}  
36. {2, 33, 39, 54}  
37. {3, 6, 29, 38}  
38. {3, 6, 29, 44}  
39. {3, 6, 38, 53}  
40. {3, 6, 44, 53}  
41. {3, 8, 18, 29}  
42. {3, 8, 18, 53}  
43. {3, 8, 29, 36}  
44. {3, 8, 36, 53}  
45. {3, 14, 24, 29}  
46. {3, 14, 24, 53}  
47. {3, 14, 29, 46}  
48. {3, 14, 46, 53}  
49. {3, 18, 29, 36}  
50. {3, 18, 36, 53}  
51. {3, 24, 29, 46}  
52. {3, 24, 46, 53}  
53. {3, 29, 38, 44}  
54. {3, 38, 44, 53}  
55. {4, 9, 17, 28}  
56. {4, 9, 17, 34}  
57. {4, 9, 28, 51}  
58. {4, 9, 34, 51}  
59. {4, 11, 21, 28}  
60. {4, 11, 21, 34}  
61. {4, 11, 28, 41}  
62. {4, 11, 34, 41}  
63. {4, 17, 28, 51}  
64. {4, 17, 34, 51}  
65. {4, 21, 28, 41}  
66. {4, 21, 34, 41}  
67. {4, 28, 43, 49}

68. {4, 34, 43, 49}  
69. {5, 12, 20, 33}  
70. {5, 12, 20, 39}  
71. {5, 12, 26, 33}  
72. {5, 12, 26, 39}  
73. {5, 14, 24, 33}  
74. {5, 14, 24, 39}  
75. {5, 14, 33, 46}  
76. {5, 14, 39, 46}  
77. {5, 20, 26, 33}  
78. {5, 20, 26, 39}  
79. {5, 24, 33, 46}  
80. {5, 24, 39, 46}  
81. {5, 33, 48, 54}  
82. {5, 39, 48, 54}  
83. {6, 9, 17, 38}  
84. {6, 9, 17, 44}  
85. {6, 9, 38, 51}  
86. {6, 9, 44, 51}  
87. {6, 15, 23, 38}  
88. {6, 15, 23, 44}  
89. {6, 15, 31, 38}  
90. {6, 15, 31, 44}  
91. {6, 17, 38, 51}  
92. {6, 17, 44, 51}  
93. {6, 23, 31, 38}  
94. {6, 23, 31, 44}  
95. {6, 29, 38, 53}  
96. {6, 29, 44, 53}  
97. {7, 10, 37, 42}  
98. {7, 10, 37, 50}  
99. {7, 10, 42, 45}  
100. {7, 10, 45, 50}  
101. {7, 12, 20, 37}  
102. {7, 12, 20, 45}  
103. {7, 12, 26, 37}  
104. {7, 12, 26, 45}  
105. {7, 20, 26, 37}  
106. {7, 20, 26, 45}  
107. {7, 22, 32, 37}  
108. {7, 22, 32, 45}  
109. {7, 22, 37, 40}  
110. {7, 22, 40, 45}  
111. {7, 32, 37, 40}  
112. {7, 32, 40, 45}  
113. {7, 37, 42, 50}  
114. {7, 42, 45, 50}

115. {8, 13, 18, 25}  
116. {8, 13, 18, 47}  
117. {8, 13, 25, 36}  
118. {8, 13, 36, 47}  
119. {8, 18, 25, 47}  
120. {8, 18, 29, 53}  
121. {8, 18, 43, 49}  
122. {8, 25, 36, 47}  
123. {8, 29, 36, 53}  
124. {8, 36, 43, 49}  
125. {9, 17, 22, 32}  
126. {9, 17, 22, 40}  
127. {9, 17, 28, 34}  
128. {9, 17, 32, 40}  
129. {9, 17, 38, 44}  
130. {9, 22, 32, 51}  
131. {9, 22, 40, 51}  
132. {9, 28, 34, 51}  
133. {9, 32, 40, 51}  
134. {9, 38, 44, 51}  
135. {10, 13, 25, 42}  
136. {10, 13, 25, 50}  
137. {10, 13, 42, 47}  
138. {10, 13, 47, 50}  
139. {10, 15, 23, 42}  
140. {10, 15, 23, 50}  
141. {10, 15, 31, 42}  
142. {10, 15, 31, 50}  
143. {10, 23, 31, 42}  
144. {10, 23, 31, 50}  
145. {10, 25, 42, 47}  
146. {10, 25, 47, 50}  
147. {10, 37, 42, 45}  
148. {10, 37, 45, 50}  
149. {11, 16, 21, 30}  
150. {11, 16, 21, 52}  
151. {11, 16, 30, 41}  
152. {11, 16, 41, 52}  
153. {11, 21, 28, 34}  
154. {11, 21, 30, 52}  
155. {11, 21, 48, 54}  
156. {11, 28, 34, 41}  
157. {11, 30, 41, 52}  
158. {11, 41, 48, 54}  
159. {12, 20, 33, 39}  
160. {12, 20, 37, 45}  
161. {12, 20, 43, 49}

162. {12, 26, 33, 39}  
163. {12, 26, 37, 45}  
164. {12, 26, 43, 49}  
165. {13, 16, 25, 30}  
166. {13, 16, 25, 52}  
167. {13, 16, 30, 47}  
168. {13, 16, 47, 52}  
169. {13, 18, 25, 36}  
170. {13, 18, 36, 47}  
171. {13, 25, 30, 52}  
172. {13, 25, 42, 50}  
173. {13, 30, 47, 52}  
174. {13, 42, 47, 50}  
175. {14, 19, 24, 27}  
176. {14, 19, 24, 35}  
177. {14, 19, 27, 46}  
178. {14, 19, 35, 46}  
179. {14, 24, 27, 35}  
180. {14, 24, 29, 53}  
181. {14, 24, 33, 39}  
182. {14, 27, 35, 46}  
183. {14, 29, 46, 53}  
184. {14, 33, 39, 46}  
185. {15, 23, 38, 44}  
186. {15, 23, 42, 50}  
187. {15, 23, 48, 54}  
188. {15, 31, 38, 44}  
189. {15, 31, 42, 50}  
190. {15, 31, 48, 54}  
191. {16, 19, 27, 30}  
192. {16, 19, 27, 52}  
193. {16, 19, 30, 35}  
194. {16, 19, 35, 52}  
195. {16, 21, 30, 41}  
196. {16, 21, 41, 52}  
197. {16, 25, 30, 47}  
198. {16, 25, 47, 52}  
199. {16, 27, 30, 35}  
200. {16, 27, 35, 52}  
201. {17, 22, 32, 51}  
202. {17, 22, 40, 51}  
203. {17, 28, 34, 51}  
204. {17, 32, 40, 51}  
205. {17, 38, 44, 51}  
206. {18, 25, 36, 47}  
207. {18, 29, 36, 53}  
208. {18, 36, 43, 49}

- 209. {19, 22, 27, 32}
- 210. {19, 22, 27, 40}
- 211. {19, 22, 32, 35}
- 212. {19, 22, 35, 40}
- 213. {19, 24, 27, 46}
- 214. {19, 24, 35, 46}
- 215. {19, 27, 30, 52}
- 216. {19, 27, 32, 40}
- 217. {19, 30, 35, 52}
- 218. {19, 32, 35, 40}
- 219. {20, 26, 33, 39}
- 220. {20, 26, 37, 45}
- 221. {20, 26, 43, 49}
- 222. {21, 28, 34, 41}
- 223. {21, 30, 41, 52}
- 224. {21, 41, 48, 54}
- 225. {22, 27, 32, 35}
- 226. {22, 27, 35, 40}
- 227. {22, 32, 37, 45}
- 228. {22, 37, 40, 45}
- 229. {23, 31, 38, 44}
- 230. {23, 31, 42, 50}
- 231. {23, 31, 48, 54}
- 232. {24, 27, 35, 46}
- 233. {24, 29, 46, 53}
- 234. {24, 33, 39, 46}
- 235. {25, 30, 47, 52}
- 236. {25, 42, 47, 50}
- 237. {27, 30, 35, 52}
- 238. {27, 32, 35, 40}
- 239. {28, 34, 43, 49}
- 240. {29, 38, 44, 53}
- 241. {32, 37, 40, 45}
- 242. {33, 39, 48, 54}
- 243. {37, 42, 45, 50}