

LHC: connect the dots !



What is this ?

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These particles interact with the detector leaving little dots where they passed. By connecting these dots, we can see the tracks (path) of the particles. These tracks are analysed by the physicists to understand what happened in the collision.

Help the physicists!

On the slice of detector on the right, trace the tracks left by the particles to help physicists identify them! Maybe you will see evidence of a Higgs boson! Follow instructions on the right of the page.

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Do you want to know more ?

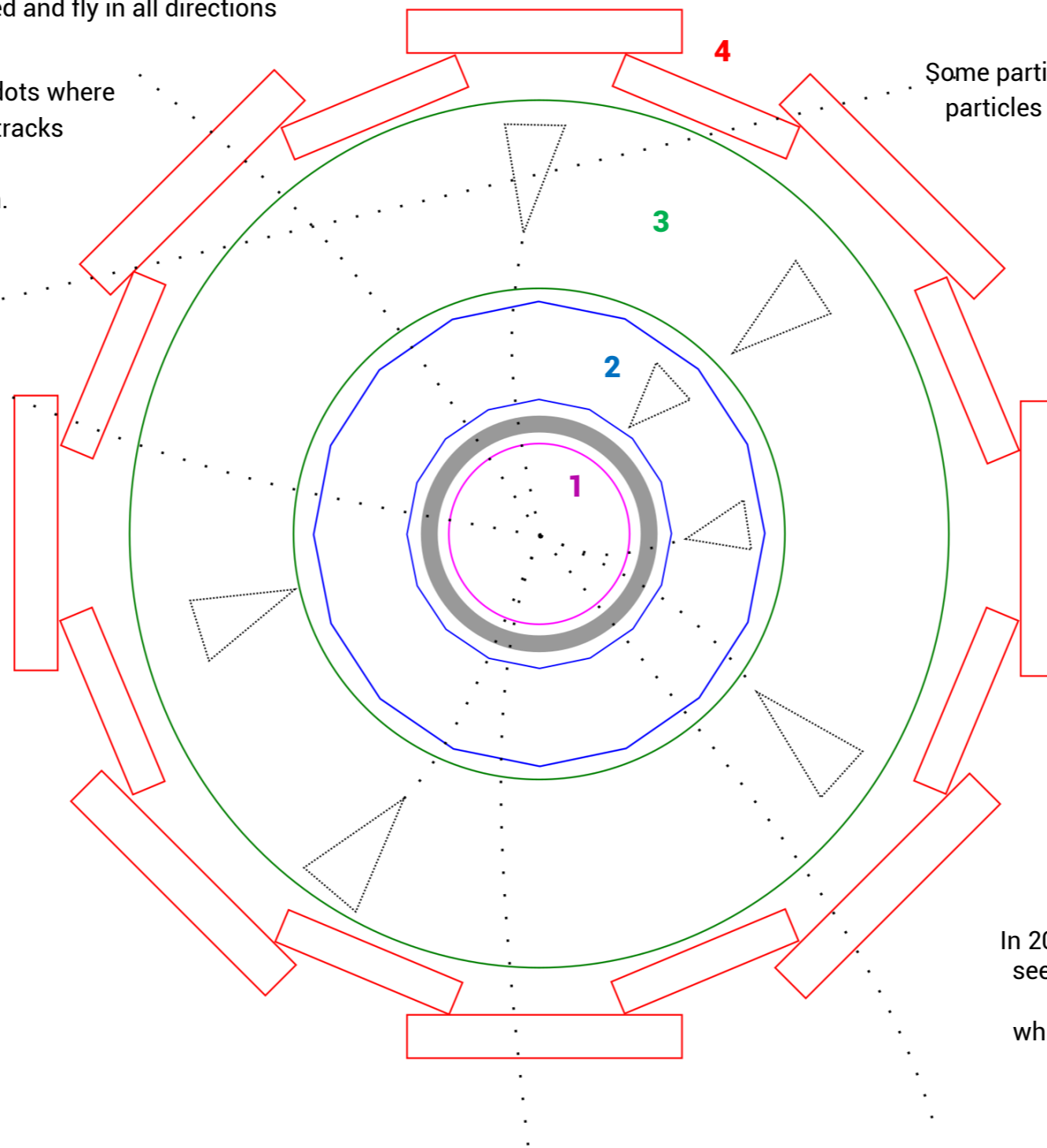
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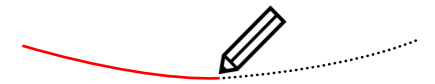
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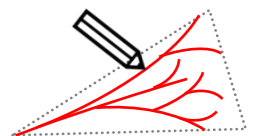


Level 1 – Easy

Take a pencil and connect the dots. That will reveal the tracks left by the particles.



Some particles are stopped by the detector generating dozens of new particles in what we call a *particle shower*. They are represented by triangles. Draw showers in the triangles. Draw showers in the triangles.



Level 2 – Intermediate

Label each track with the name of one of the particles written in the first column of the table. There is a column for each detector part, numbered from the inside out. Identify particles by the traces they left.

Particle	1	2	3	4
Photon		Shower		
Electron	Track	Shower		
Neutron			Shower	
Proton	Track	Track	Shower	
Muon	Track	Track	Track	Track

Level 3 – Advanced

A. Have you found a Higgs boson in this collision ?

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4 muons	2 electrons + 2 muons	2 photons
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If you have not found a Higgs, try another collision...

B. Strange track...

One track does not pass by the point of collision in the centre. What is it ? Scan the QR code on the left to find out!

Collision # 63325901458
Analysed by :

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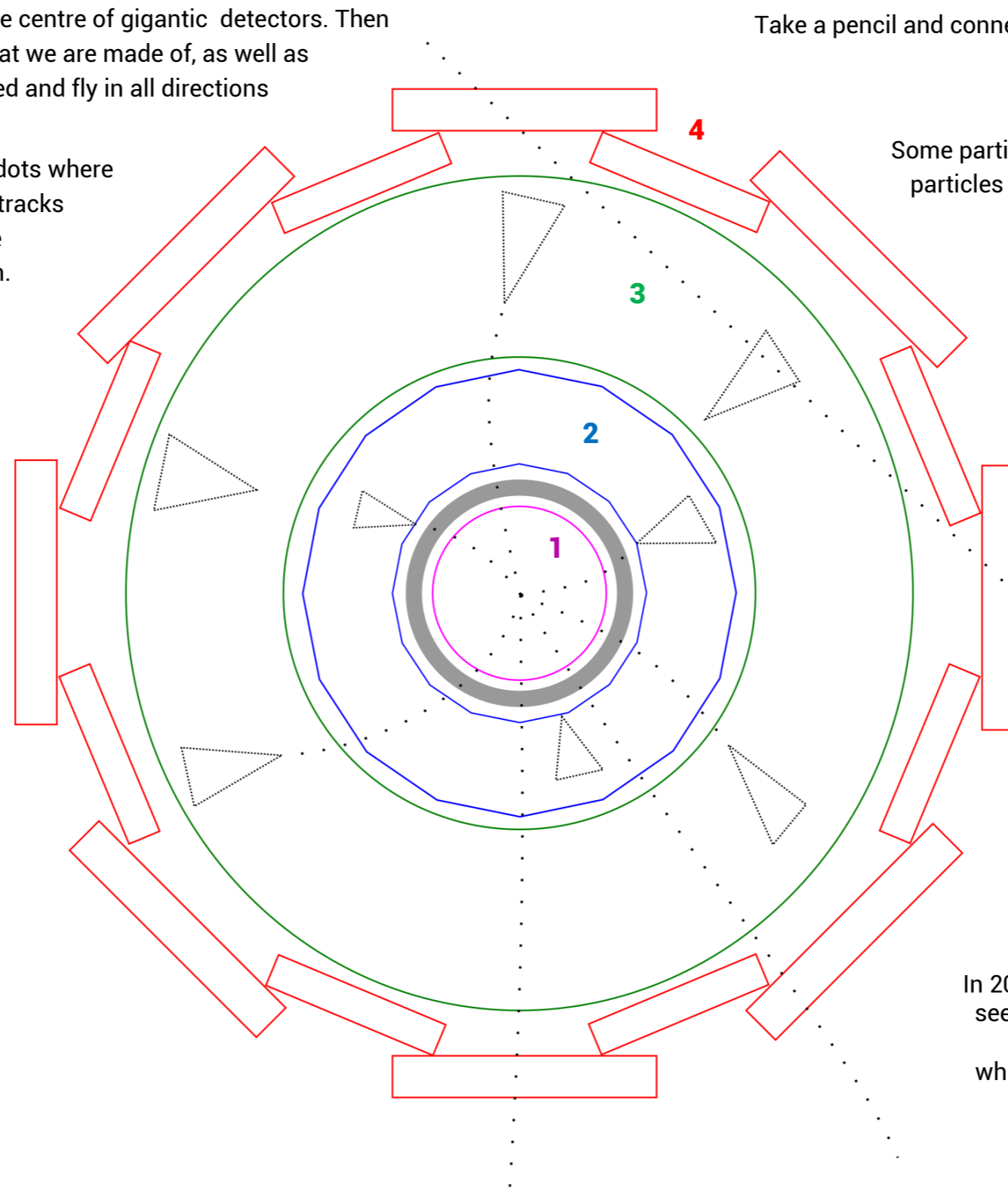
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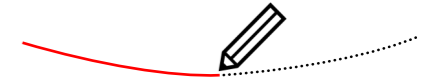
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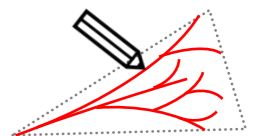


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Collision # 54685956798
Analysed by :

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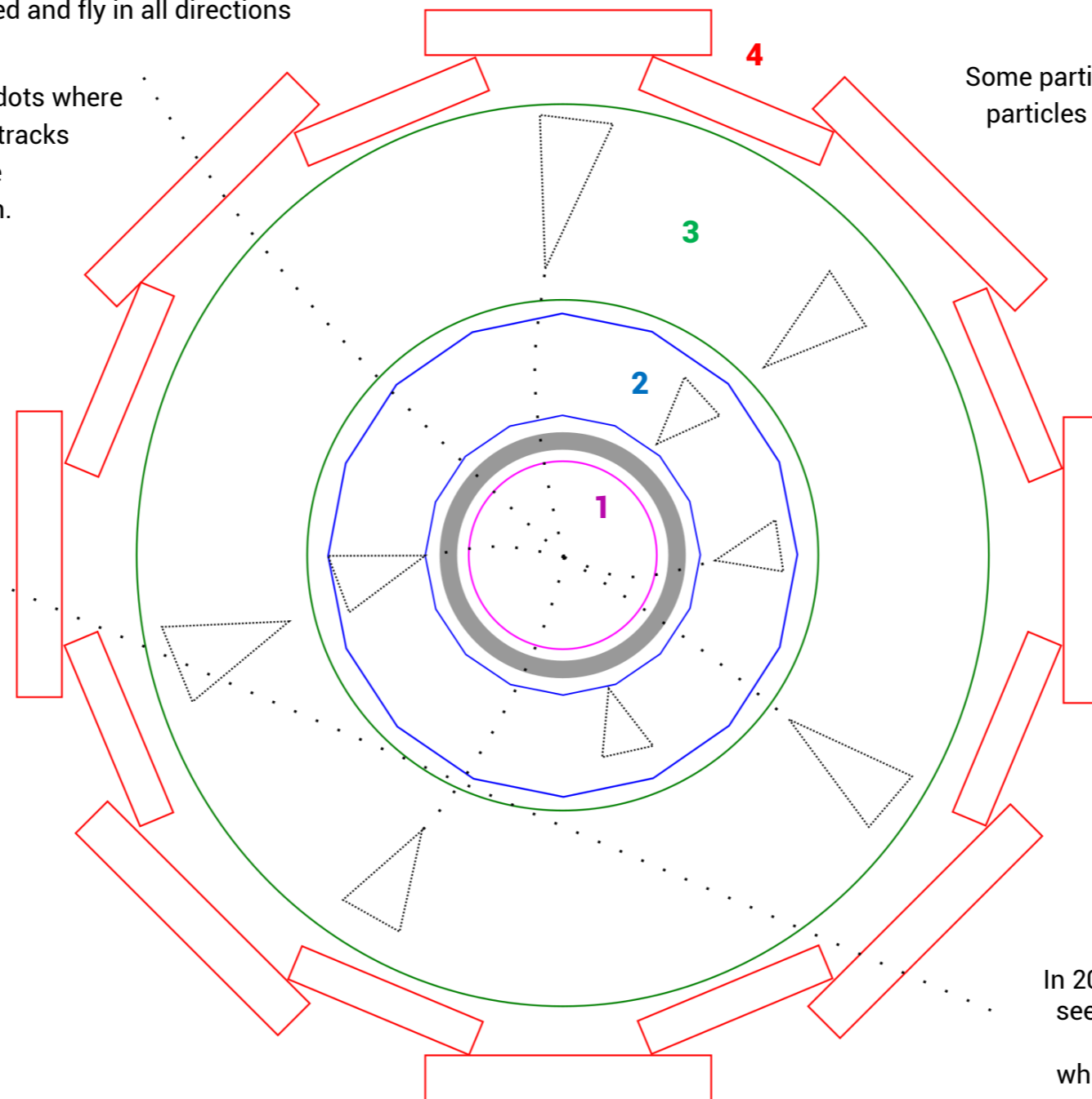
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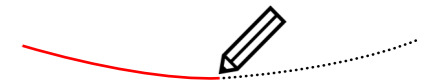


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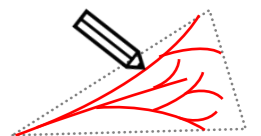
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Collision # 35695645852
Analysed by :

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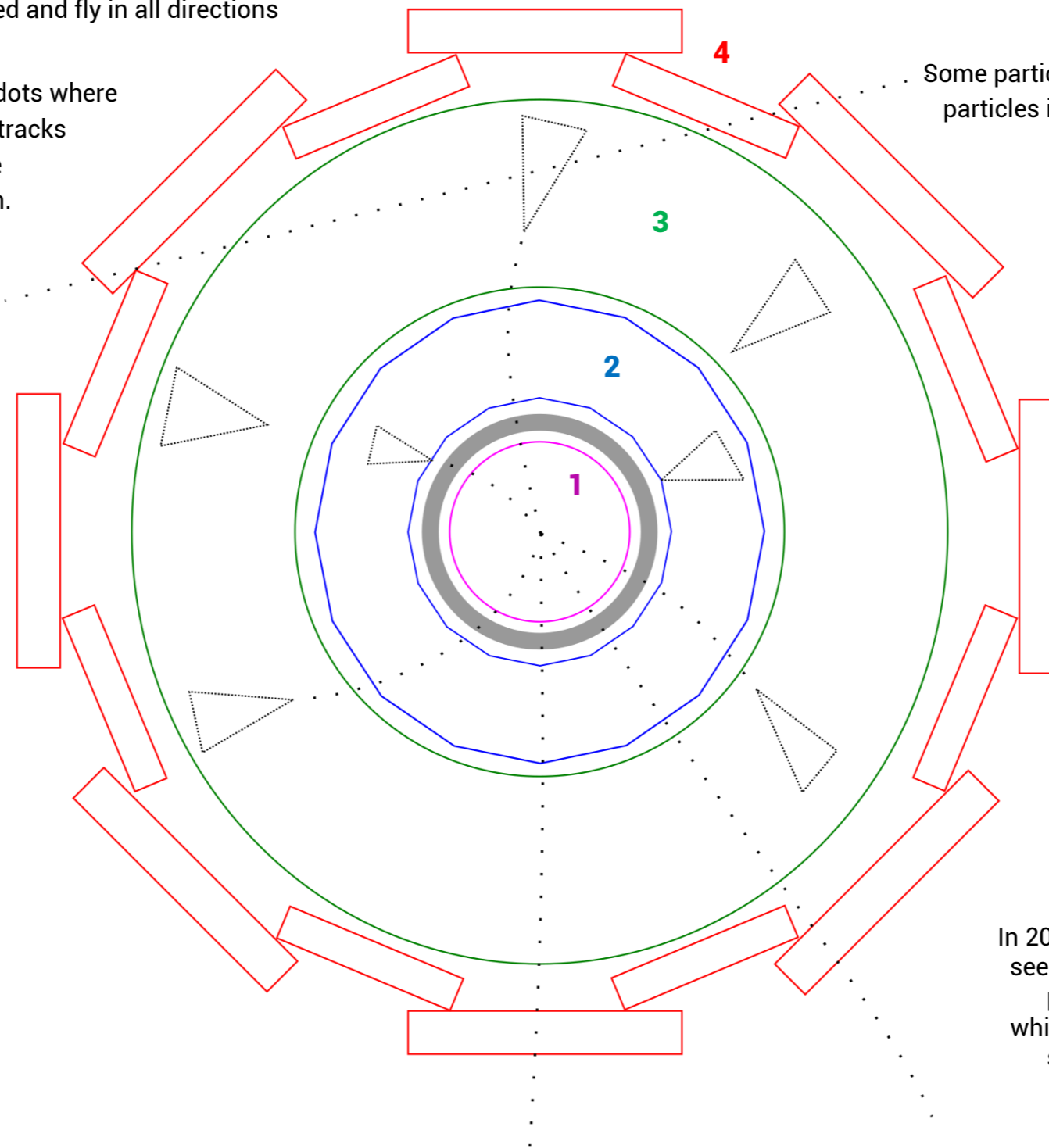
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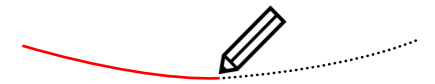
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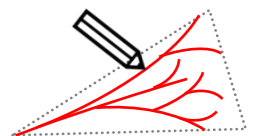


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Collision # 15425874568
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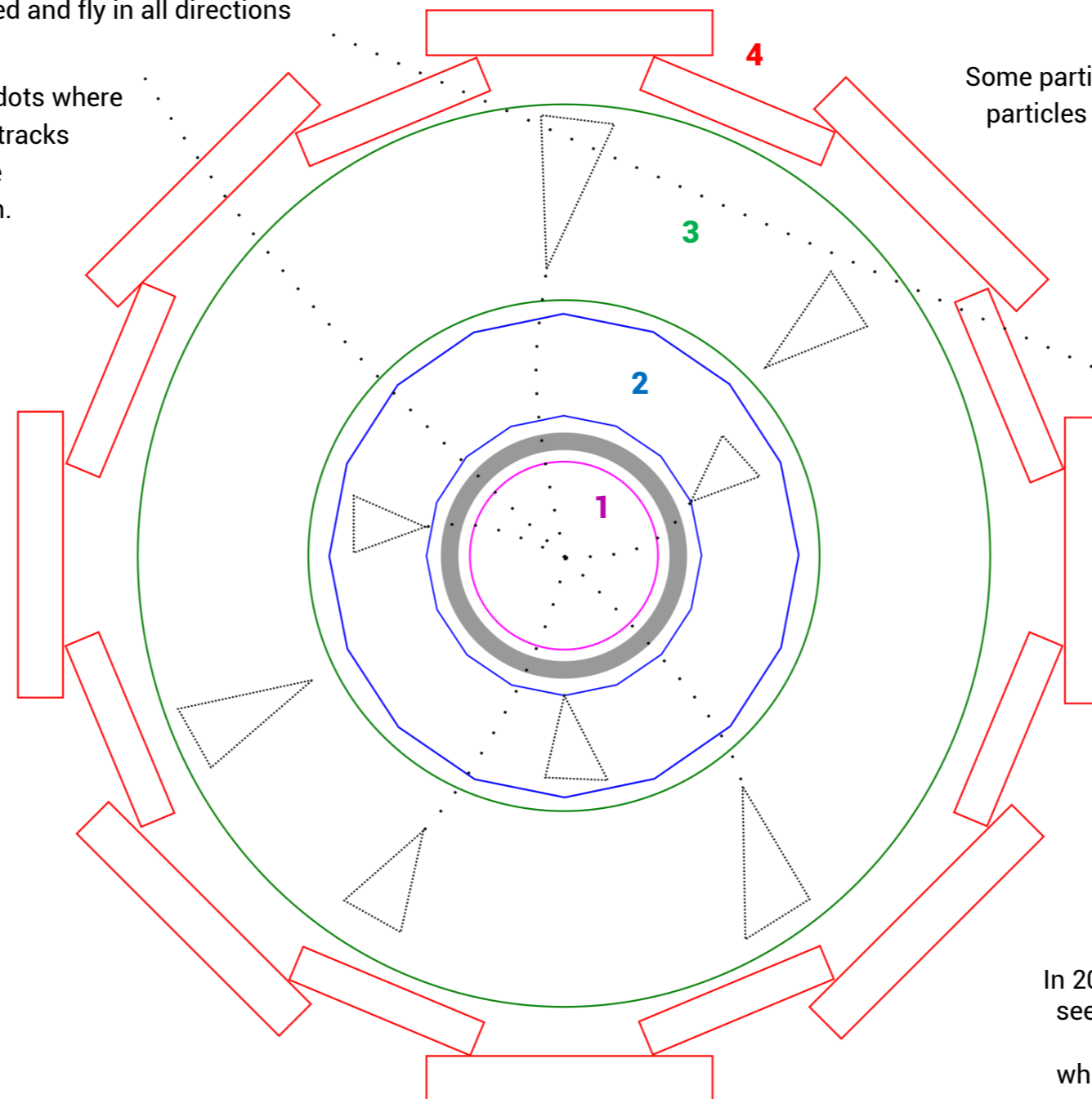
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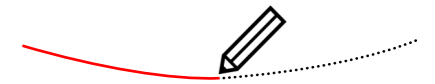


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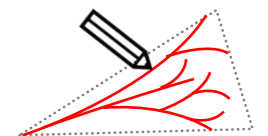
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Collision # 16598568566
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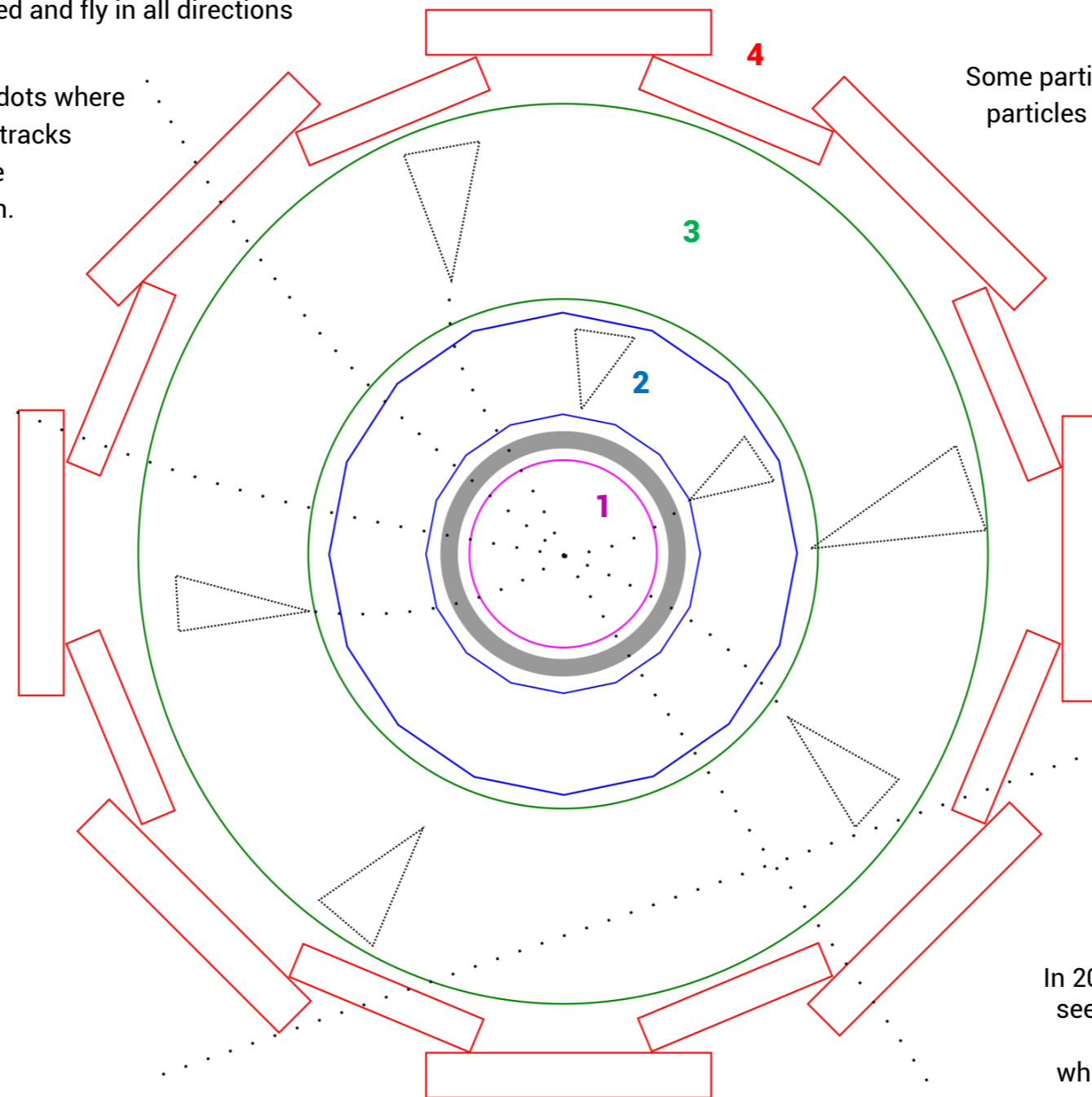
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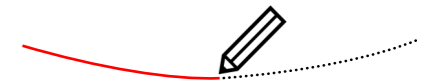
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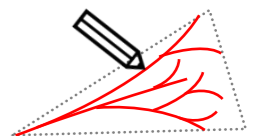


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Collision # 16853945820
Analysed by :