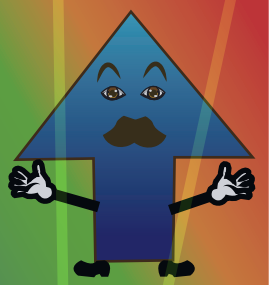
Pion (Pi^+)
(12 Points)

Up Quark

Electric Charge: +2/3
Spin: 1/2
Mass: 2.2 MeV
Mean Lifetime: Stable

Colour Charge: Yes
Baryon Number: 1/3
1st generation (1 point)



Anti-Down Quark

Electric Charge: +1/3
Spin: 1/2
Mass: 4.7 MeV
Mean Lifetime: Stable

Colour Charge: Yes
Baryon Number: -1/3
1st generation (1 point)

Electric Charge: +1
Spin: 0
Mass: 139.6 MeV
Mean Lifetime: 2.6×10^{-8} sec

Pions are the lightest mesons. Charged pions were proposed theoretically in 1935 but were not discovered until 1947.

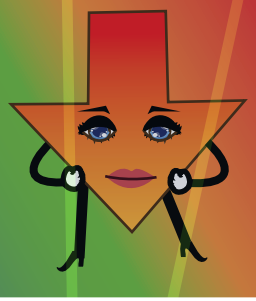
Virtual pions are exchanged between protons and neutrons as carriers of the (residual) strong force.

Pion (Pi^-)
(12 Points)

Down Quark

Electric Charge: -1/3
Spin: 1/2
Mass: 4.7 MeV
Mean Lifetime: Stable

Colour Charge: Yes
Baryon Number: 1/3
1st generation (1 point)



Anti-Up Quark

Electric Charge: -2/3
Spin: 1/2
Mass: 2.2 MeV
Mean Lifetime: Stable

Colour Charge: Yes
Baryon Number: -1/3
1st generation (1 point)

Electric Charge: -1
Spin: 0
Mass: 139.6 MeV
Mean Lifetime: 2.6×10^{-8} sec

Pions are the lightest mesons. Charged pions were proposed theoretically in 1935 but were not discovered until 1947.

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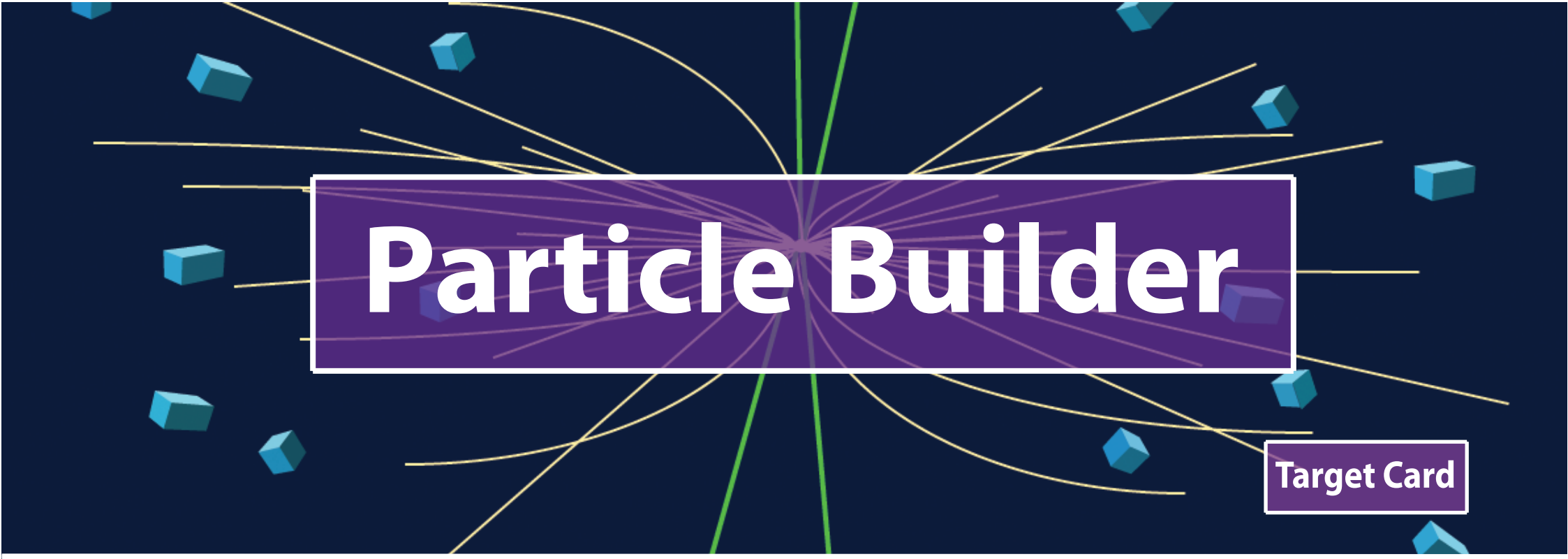
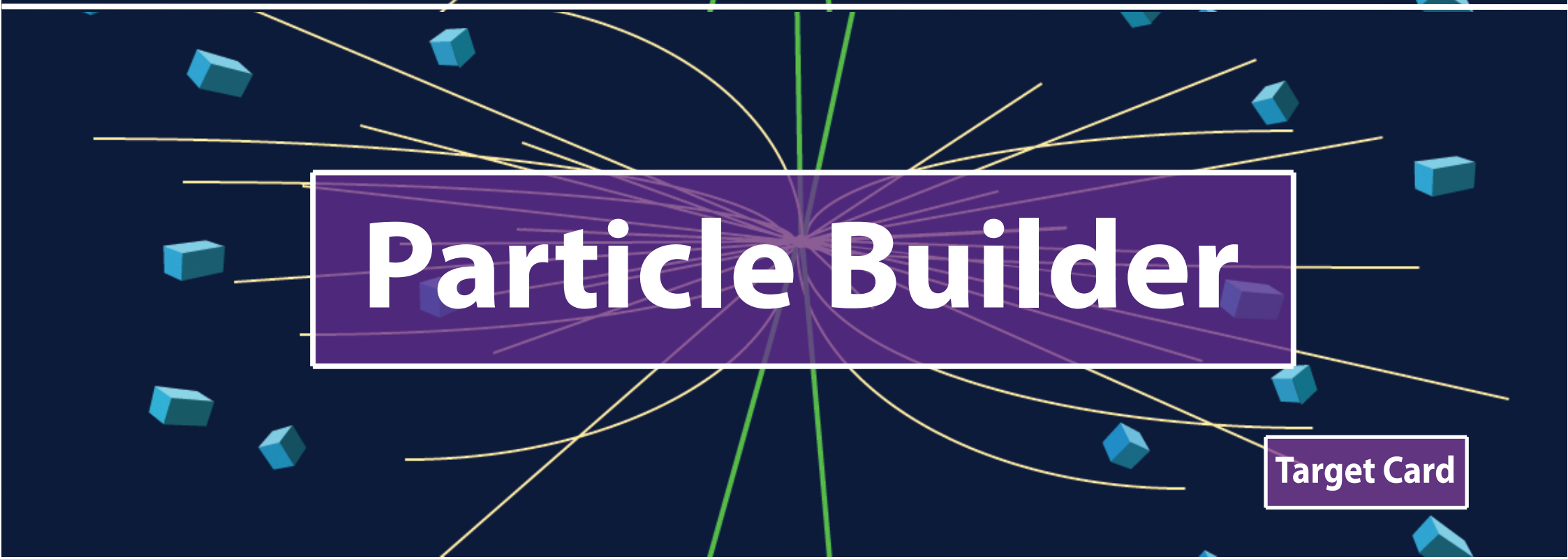

Particle Builder
Target Card


Particle Builder
Target Card