

Application No. 718: Halbach array

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Fastening magnets without glue

Our Halbach array

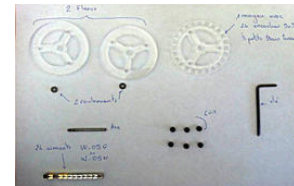
We created a magnet wheel in our tech lab that contains 24 gold- and nickel-plated cube magnets. Our goal was to arrange the magnets into a Halbach array without having to glue them on. The pictures shows the pre-cut of the main elements with a laser.



Material

This is an overview of the elements used:

- 2 covering discs
- 1 magnet-bearing disc
(24 grooves 5 x 5 mm; 3 holes)
- 2 mountings
- 1 axis
- 6 screws
- 1 hexagon socket screw key
- 24 gold-plated cube magnets 5 mm (www.supermagnete.fr/eng/W-05-G) and
nickel-plated cube magnets 5 mm (www.supermagnete.fr/eng/W-05-N)



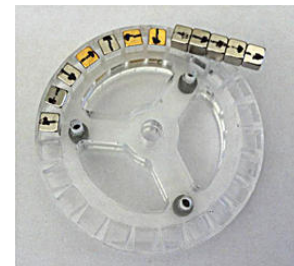
Assembly of the first covering disc

This photo shows how we connected one of the covering discs with the middle disc that shall house the magnets.



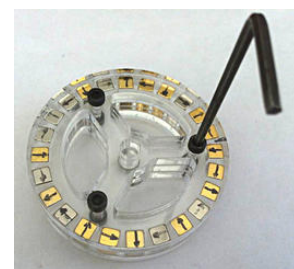
Arranging the magnets

Here you can see how we placed the magnets in the magnet-bearing middle disc.



Assembly of the second covering disc

This picture shows how we used the hexagon socket screw key to screw the second covering disc to the magnet-bearing discs.



Assembly of mountings and axis

And the last photo shows the magnet wheel with inserted mountings and axis.



Articles used

15 x W-05-G: Cube magnet 5 mm (www.supermagnete.fr/eng/W-05-G)

9 x W-05-N: Cube magnet 5 mm (www.supermagnete.fr/eng/W-05-N)

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