

task_8a117vmnbbmsbfz3_with_calculation

Student Group

First Name	Surname	Matrikel Nr.

Table of Contents

Exercise E6 Magnetic Field Lines (written test, approx. 6 % of a 120-minute written test, SS2024) 2

magnetostatic, magnetic field lines, exam ee2 SS2024

Exercise E6 Magnetic Field Lines
(written test, approx. 6 % of a 120-minute written test, SS2024)

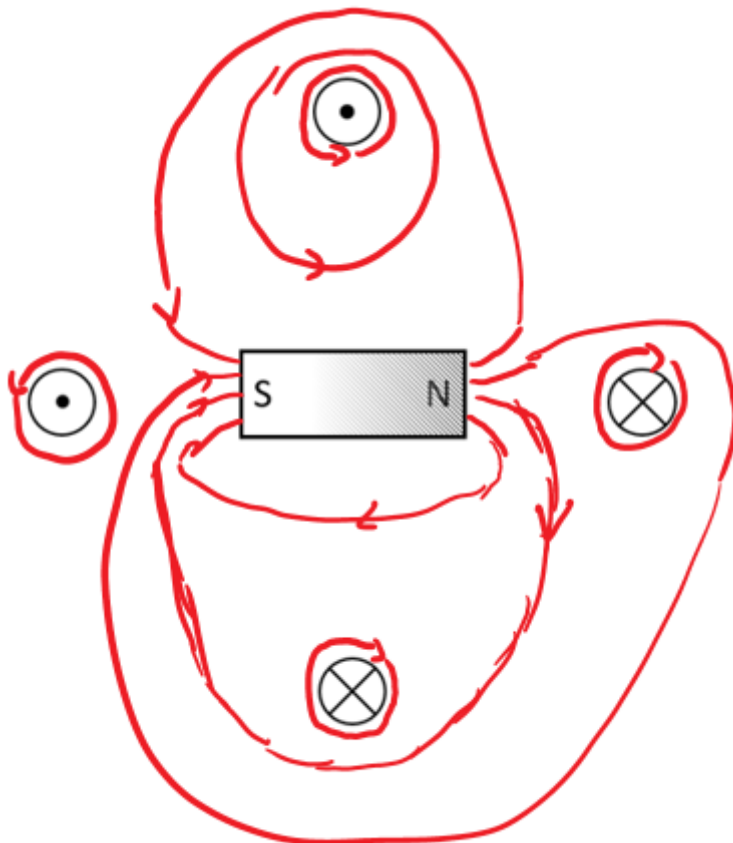
The following setup illustrates how a permanent magnet affects the H-field, based on the fundamental definition of the H-field.

- Four conductors are located perpendicular to the plane of the diagram

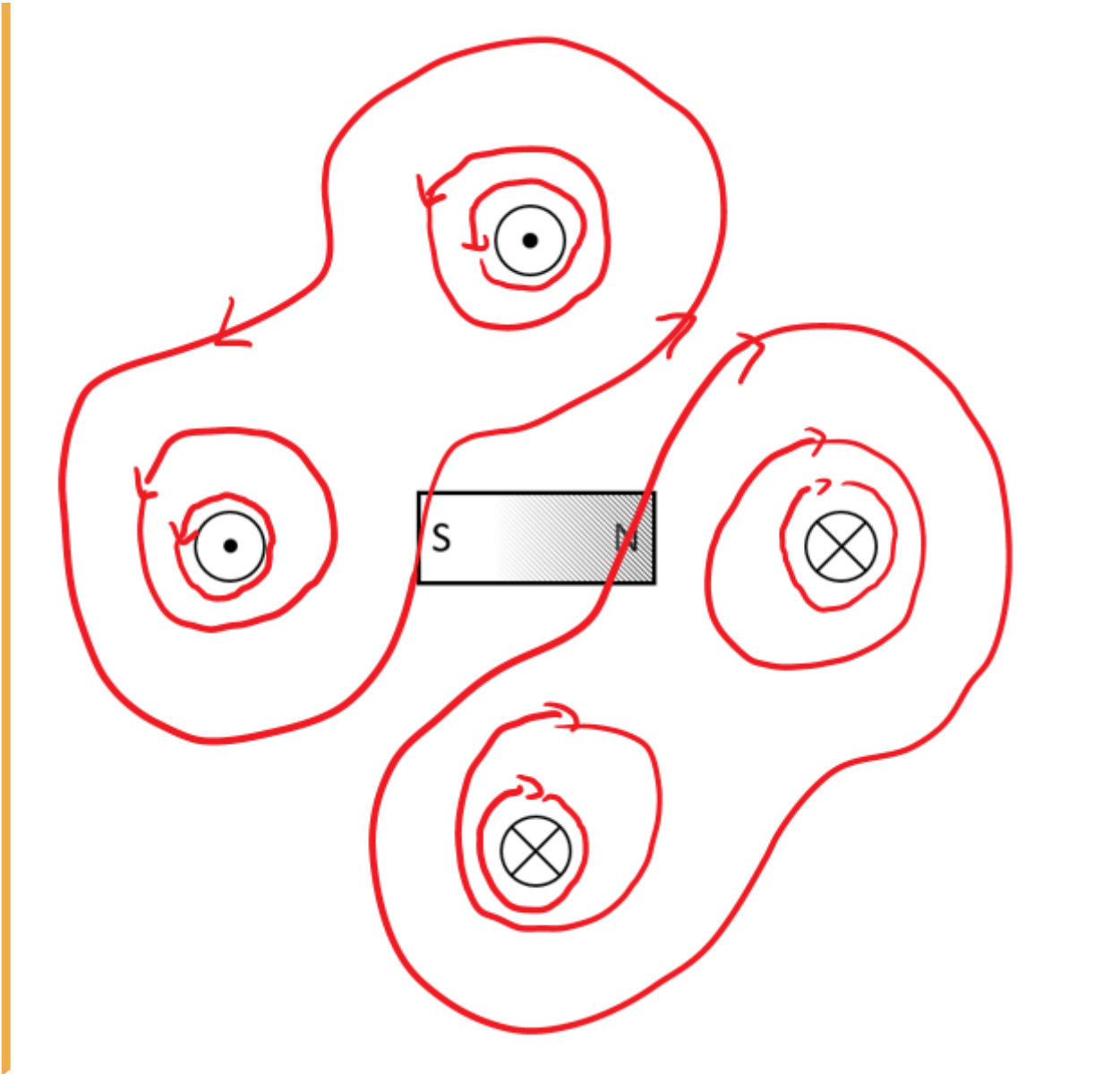
Result: All of them conduct a current with the same magnitude, but not in the same direction.

- A permanent magnet is located in between the conductors.

- The H-field is defined by currents $\sum I = \int H \{ \text{r m d} \} s$.
- In the permanent magnet, there are no free currents.
- The bound currents (of the permanent magnet) create also an H field.
- This exits on the north pole and enters the magnet on the south pole (similar to the B-field)_
- $H = B/\mu$
- The H-field from task 1 gets distracted



st 10 field lines of the H-field
and density for the shown



From:

<https://wiki.mexle.org/> - MEXLE Wiki

Permanent link:

https://wiki.mexle.org/ee2/task_8a117vmnbbmsbfz3_with_calculation

Last update: 2024/07/15 16:47

