
Coaxial cable partly filled with ferromagnetic layer. A coaxial cable carries a time-invariant current I . A thin layer of a ferromagnetic material is placed near the outer conductor, and the rest of the space between the conductor is air-filled. With respect to the notation in the Fig. Q5.1 showing the cable cross section, the magnetic field exist only in

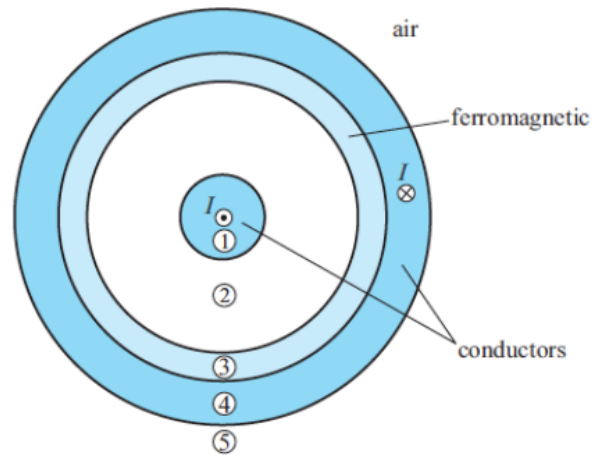


Figure Q5.1 Cross section of a coaxial cable partly filled with a ferromagnetic material; for Question 5.7.

- (A) region 3.
- (B) regions 2 and 3.
- (C) regions 1, 3 and 4.
- (D) regions 1, 2, 3 and 4.
- (E) regions 1, 2, 3, 4 and 5.

Solution: (D)

Answer: (D)