Main Measurement Loop for Channel 1 HBDEH

Main Measurement Loop for Channel 2 ICDFI

Dual- Trace Oscilloscope

H   I

G

E   F

Unintended ground loop for Channel 1 HBDFGEH captures huge amount of flux.

Unintended ground loop for Channel 2 ICDEGFI captures huge amount of flux.

D

Main Field

Note open loop is a source of error, so this area should be minimized.

B   C

90 Ω   900 Ω

A

Note open loop is a source of error, so this area should be minimized.

Leakage Field Zone

A Faraday Law Paradox Question: Notice that the main measurement loop and the unintended ground loop each encircle a different amount of total flux. If either loop were present alone, then the scope would read the emf equal to the time rate of change of enclosed flux. However, with both loops present, what does the scope read, and what is the physical meaning of the value that is given by the scope?