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Independence of Inductive kick on Inductance of a Pulse Induction Circuit

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It is commonly believed that inductive kick or back electromotive force (EMF) generated by a coil depends on the magnitude of its inductance. This, intuitively, is in line with Faraday's law of electromagnetic induction. This work seeks to show that this is not necessarily the case. Starting from basic principles, this work presents a theoretical analysis which shows that the back EMF generated by a pulse induction coil does not depend on inductance. Rather, the back EMF is a function of the ratio of the load to the coil resistance. The theoretical analysis is supported with results of circuit simulation and a real-life example confirming the independence of the back EMF on inductance.

Apply to be considered for a student award (Yes / No)?

No

Level for award (Hons, MSc, PhD, N/A)?

N/A

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