

Upravljanje brzinom motora jednosmerne struje primenom analogne negativne povratne sprege

Diplomski rad

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- 2.2 Pretvarač učestanosti u napon
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Sistemi automatskog upravljanja

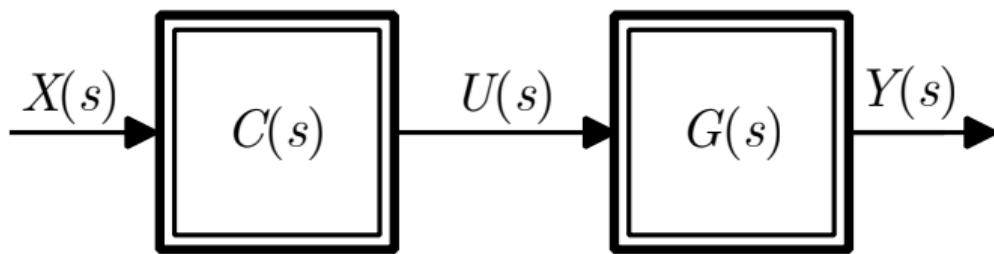


Figure: Opšta blok šema sistema automatskog upravljanja.

Motor stalne struje

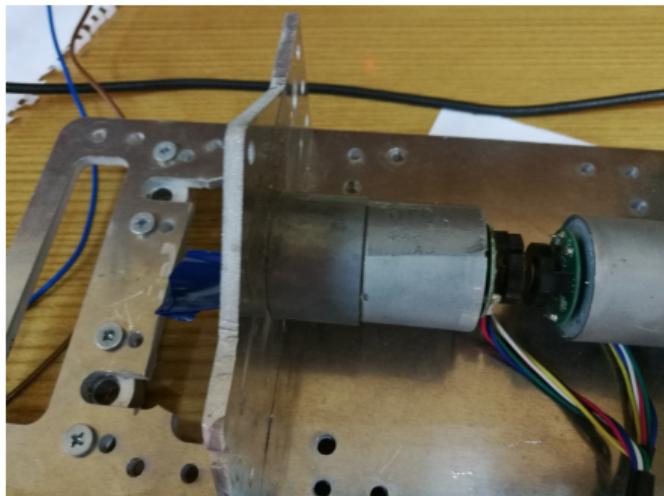


Figure: Motor stalne struje.

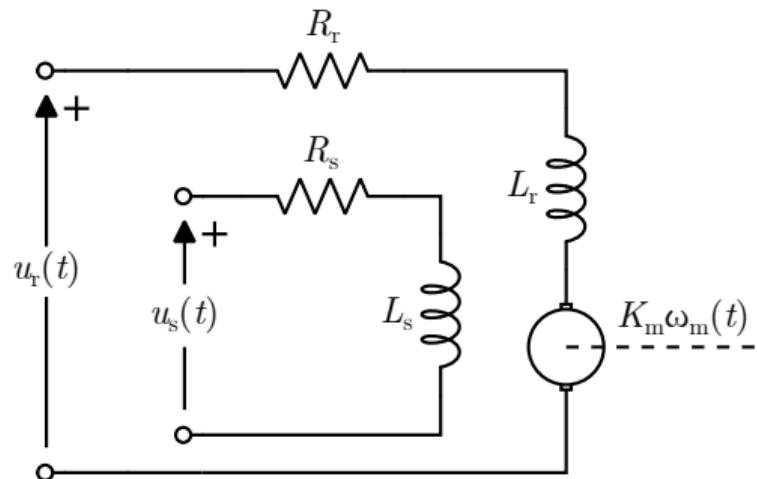


Figure: Model motora stalne struje.

Rotacioni enkoder

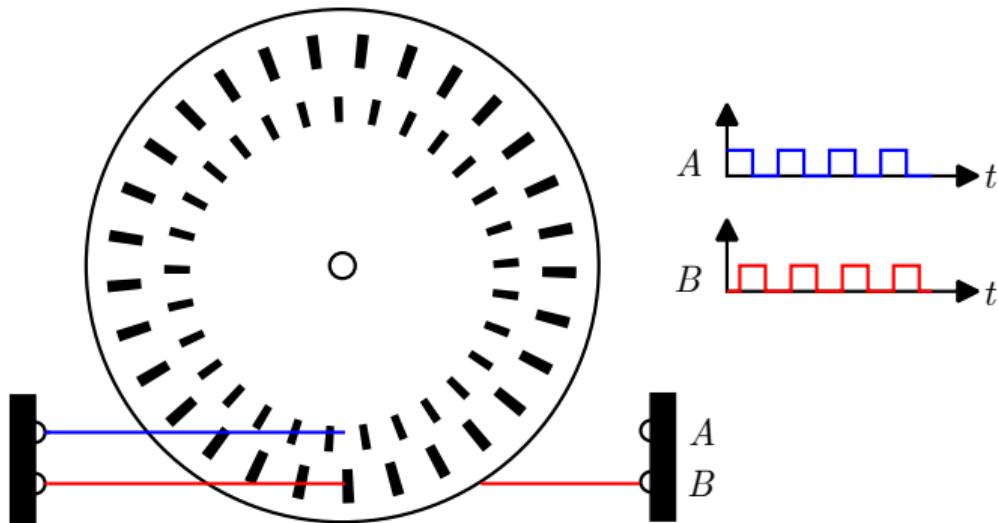


Figure: Rotacioni enkoder.

Pretvarač učestanosti u napon

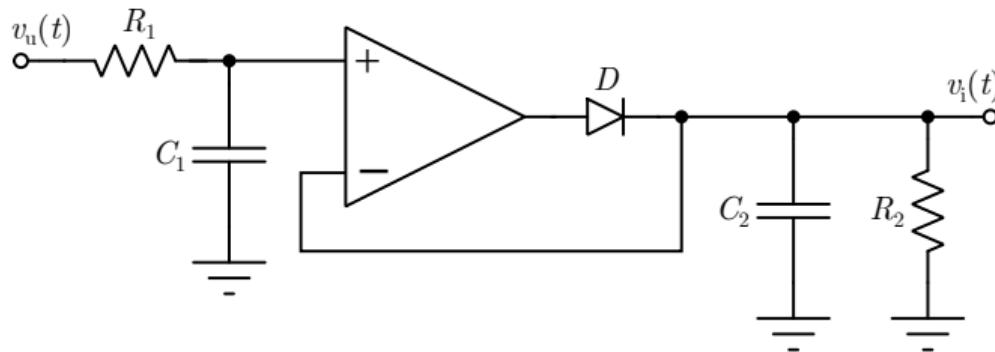


Figure: Električna šema pretvarača učestanosti u napon.

Pretvarač učestanosti u napon

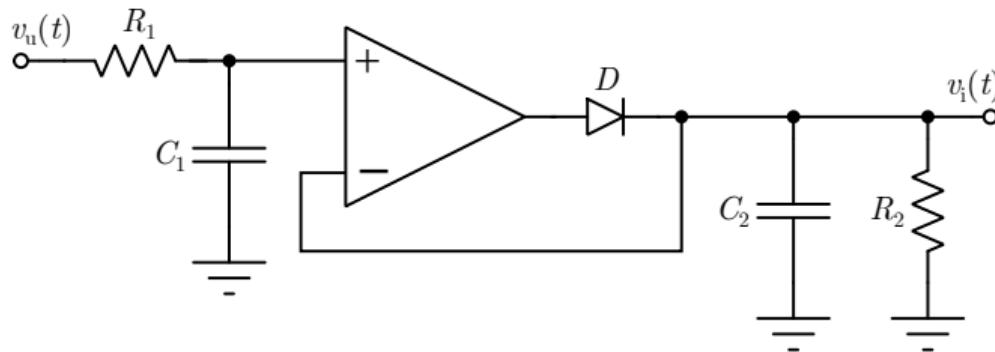


Figure: Električna šema pretvarača učestanosti u napon.

Pretvarač učestanosti u napon

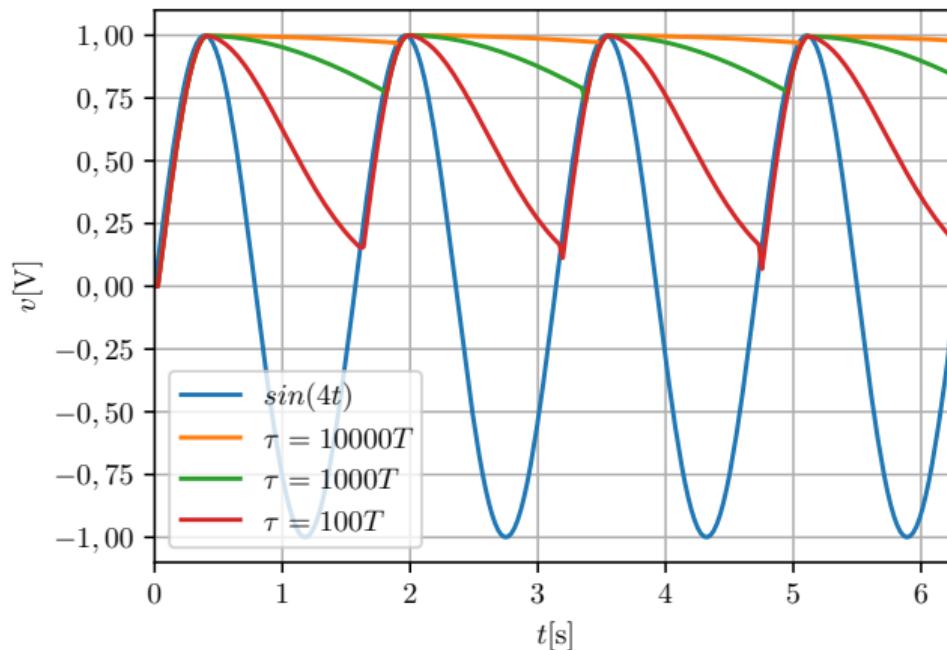


Figure: Primer ulaznog signala i nekoliko izlaznih signala pretvarača učestanosti u napon.

Negativna povratna sprega

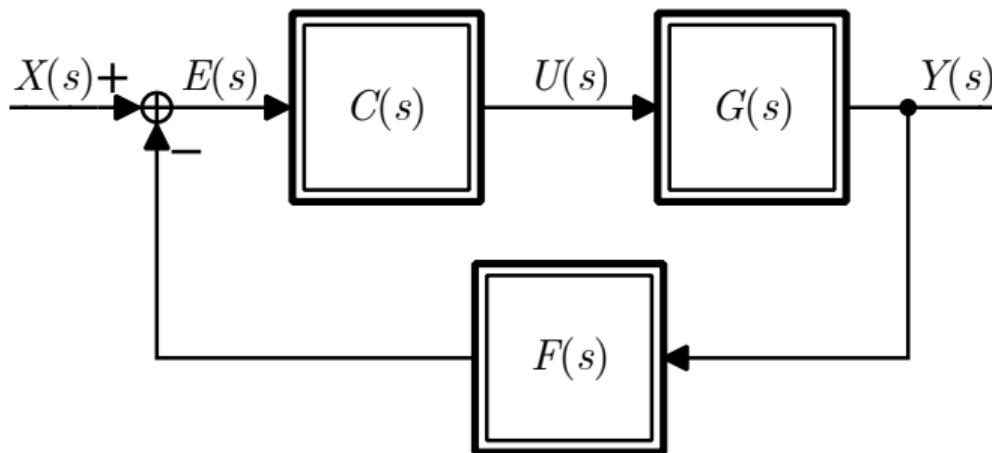


Figure: Opšta blok šema sistema sa negativnom povratnom spregom.

P regulator

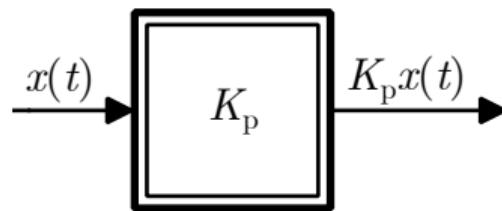


Figure: Opšta blok šema P regulatora.

Bang-bang regulator

$$K_p \rightarrow \infty$$

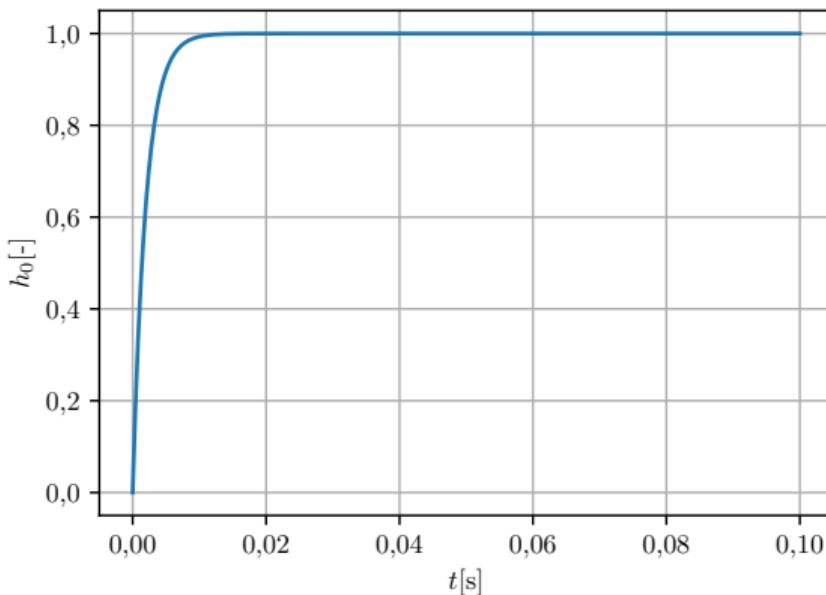


Figure: Očekivani napon na izlazu bang-bang regulatora.

PI regulator

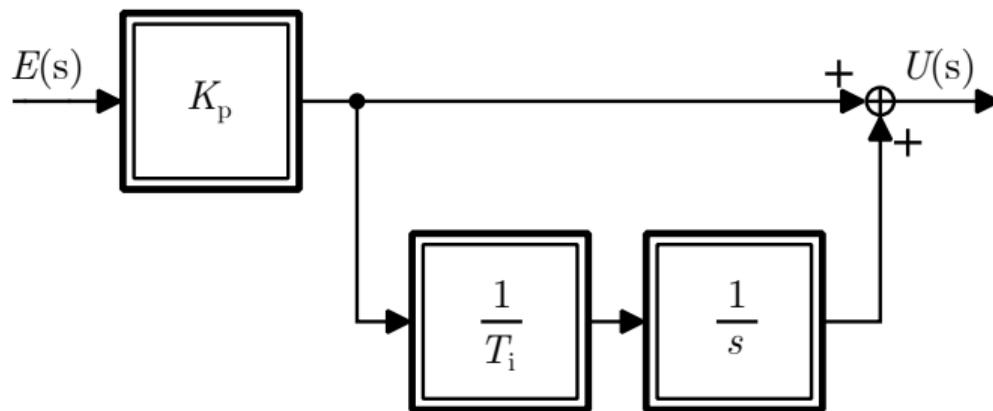


Figure: Opšta blok šema sistema sa PI regulatorom.

Pojačavač snage

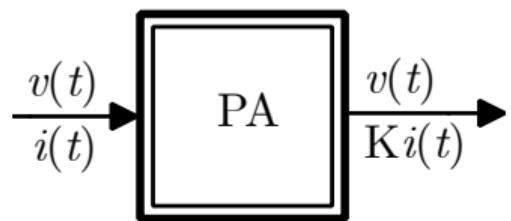


Figure: Opšta blok šema sistema sa negativnom povratnom spregom.

Pojačavač snage u klasi B

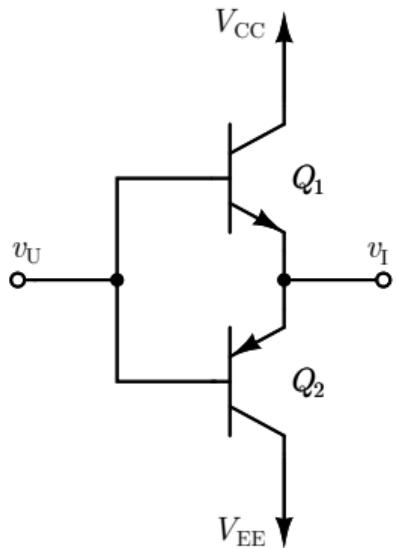


Figure: Pojačavač snage u klasi B.

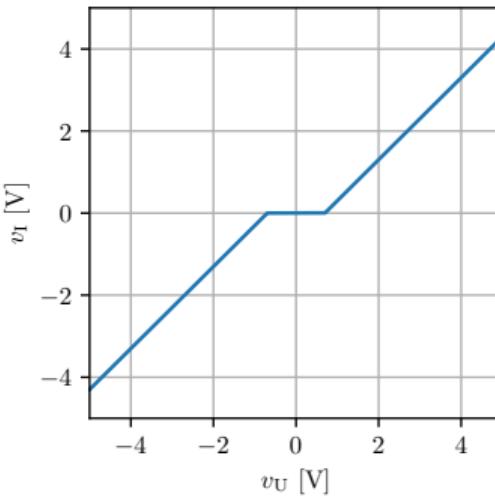


Figure: Jednosmerna prenosna karakteristika.

Pojačavač snage u klasi AB

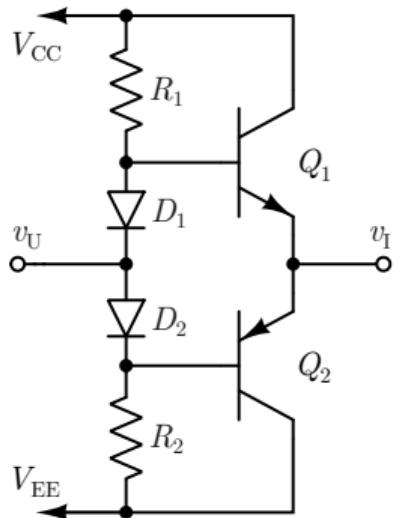


Figure: Pojačavač snage u klasi B.

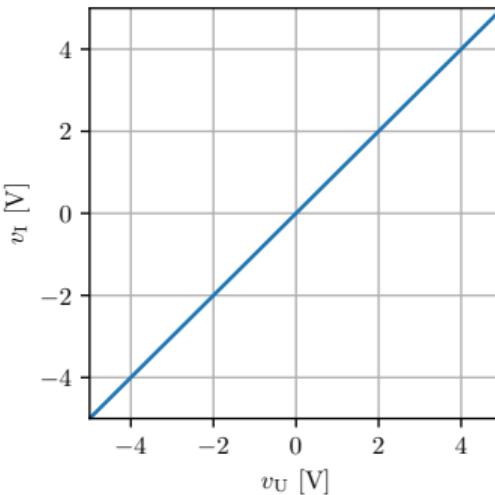


Figure: Jednosmerna prenosna karakteristika.

Merenje karakteristike motora

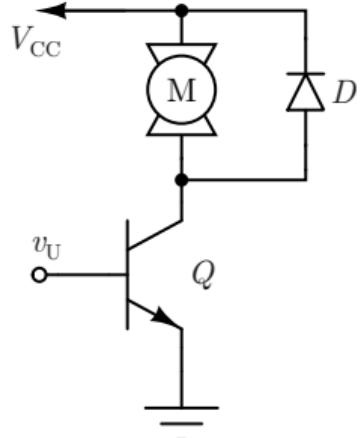


Figure: Električna šema za testiranje motora.

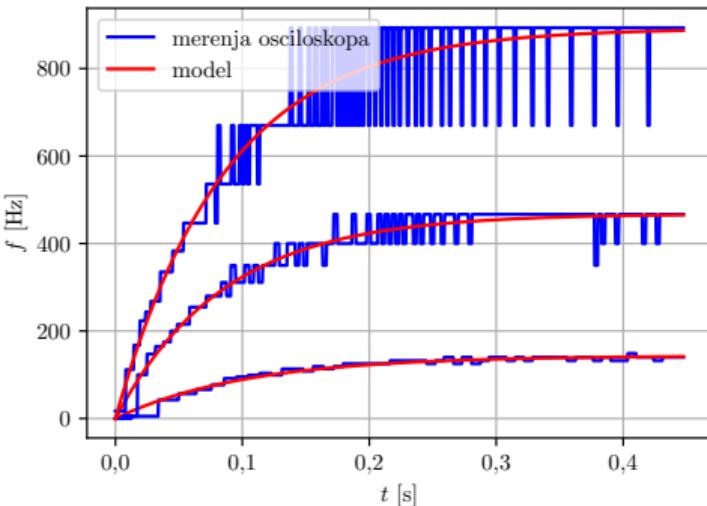


Figure: Grafik preklopljenih izmerenih i modela karakteristike motora.

Greška merenja

$$\frac{\delta f}{f} = \frac{f\delta f}{1-(f\delta f)^2}$$

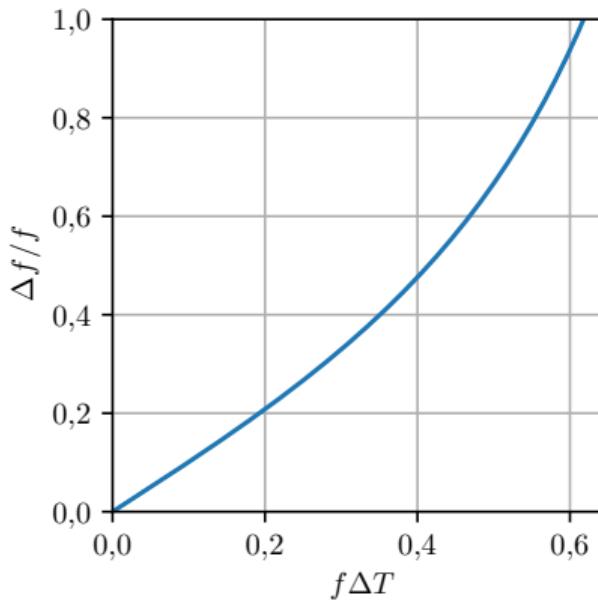


Figure: Odnos normalizovane relativne greške u odnosu na normalizovanu frekvenciju.

Pretvarač učestanosti u napon

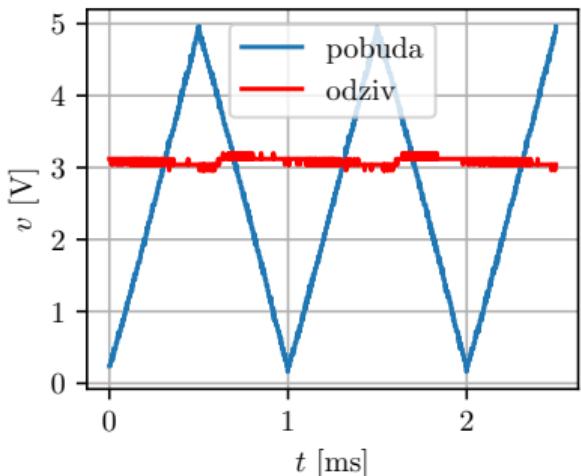


Figure: Odziv pretvarača na pobudu konstante frekvencije.

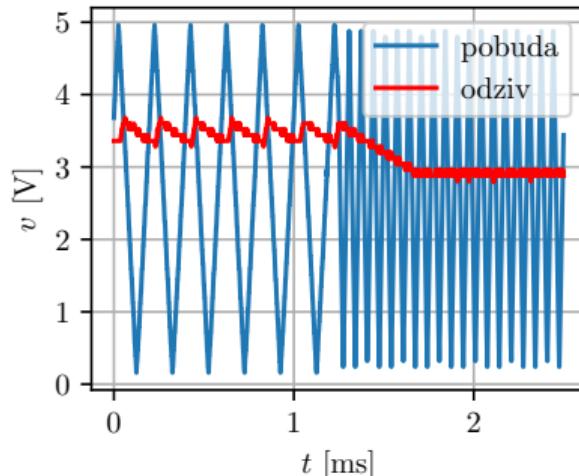


Figure: Odziv pretvarača na skokovitu promenu frekvencije pobudnog napona.

Pretvarač učestanosti u napon sa filtrom

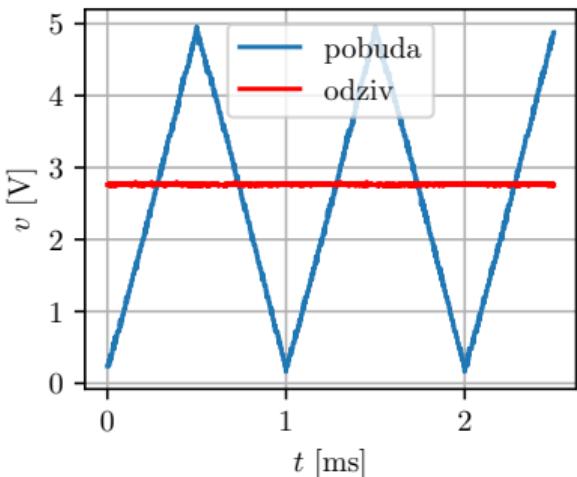


Figure: Odziv pretvarača na pobudu konstante frekvencije.

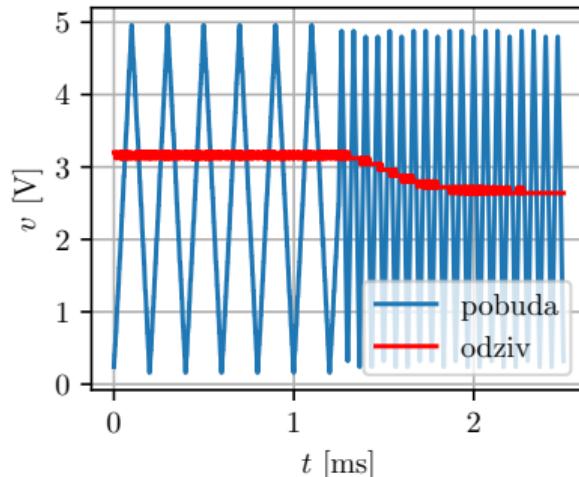


Figure: Odziv pretvarača na skokovitu promenu frekvencije pobudnog napona.

Karakteristika pretvarača frekvencije u napon

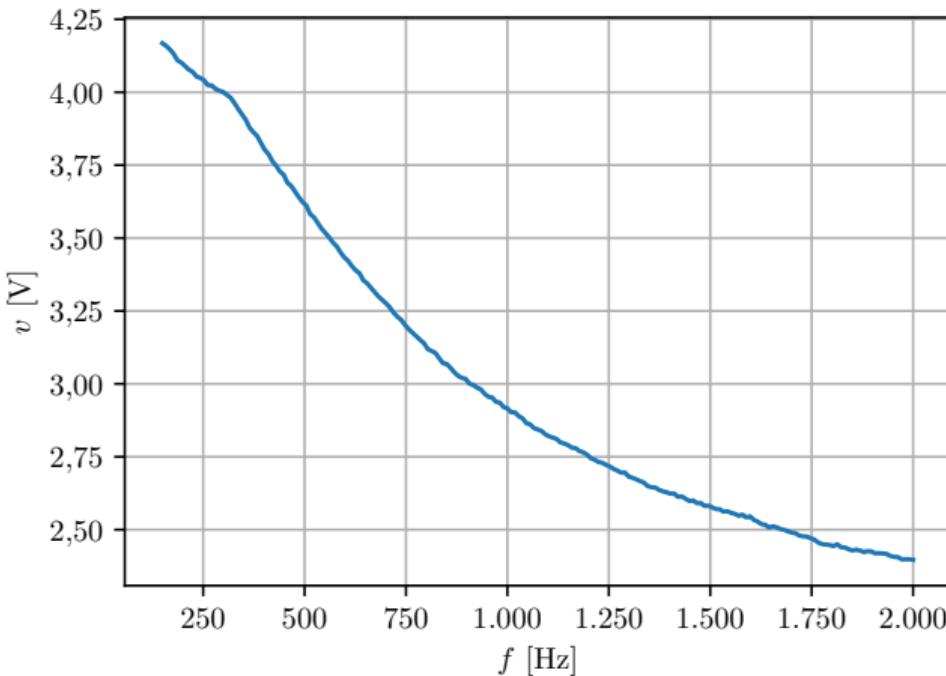


Figure: Prenosna karakteristika pretvarača učestanosti.

Karakteristike pojačavača snage

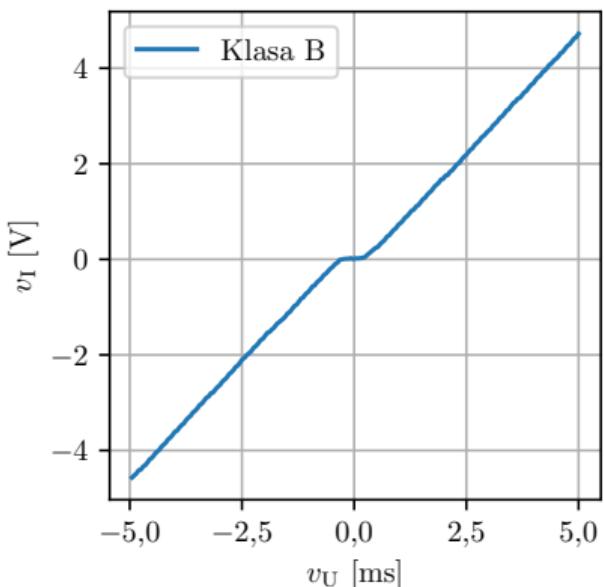


Figure: Izmerena statička karakteristika pojačavača snage u klasi B.

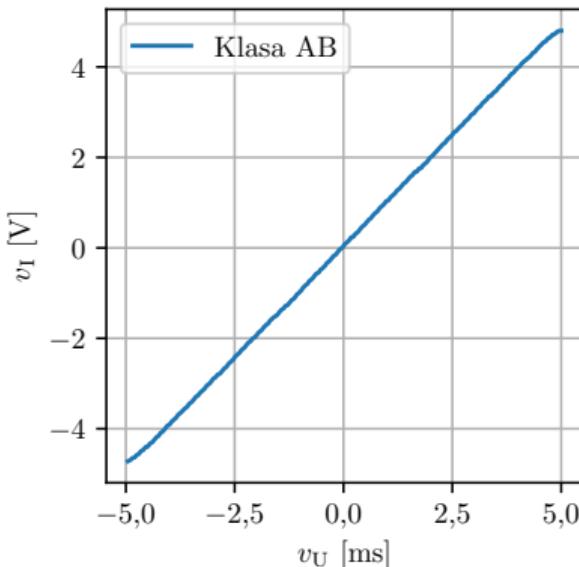


Figure: Izmerena statička karakteristika pojačavača snage u klasi AB.

Karakteristike pojačavača snage

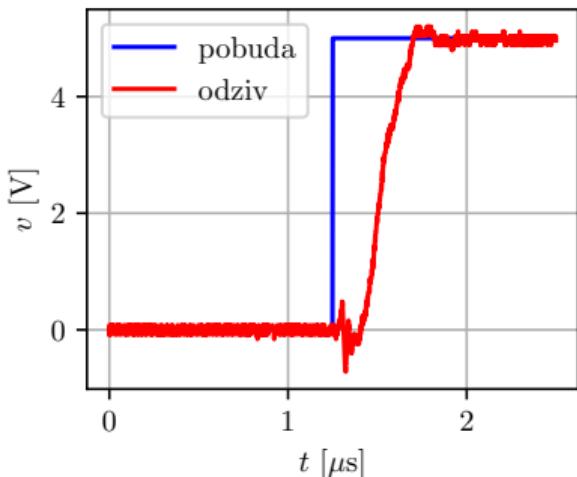


Figure: Izmeren odziv pojačavača u klasi AB na odskočnu pobudu.

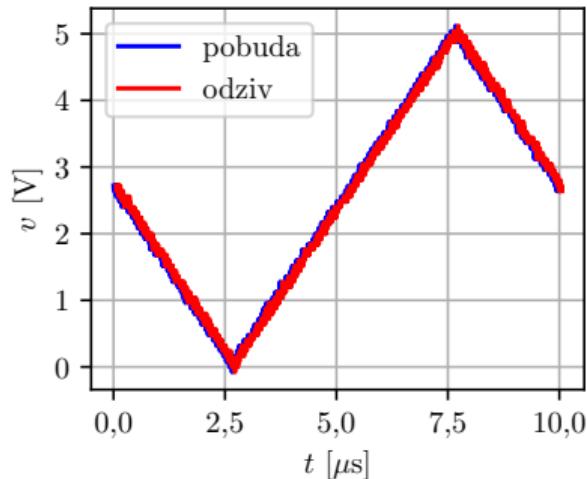


Figure: Izmeren odziv pojačavača u klasi AB na rampu.

Multiple Columns

Heading

1. Statement
2. Explanation
3. Example

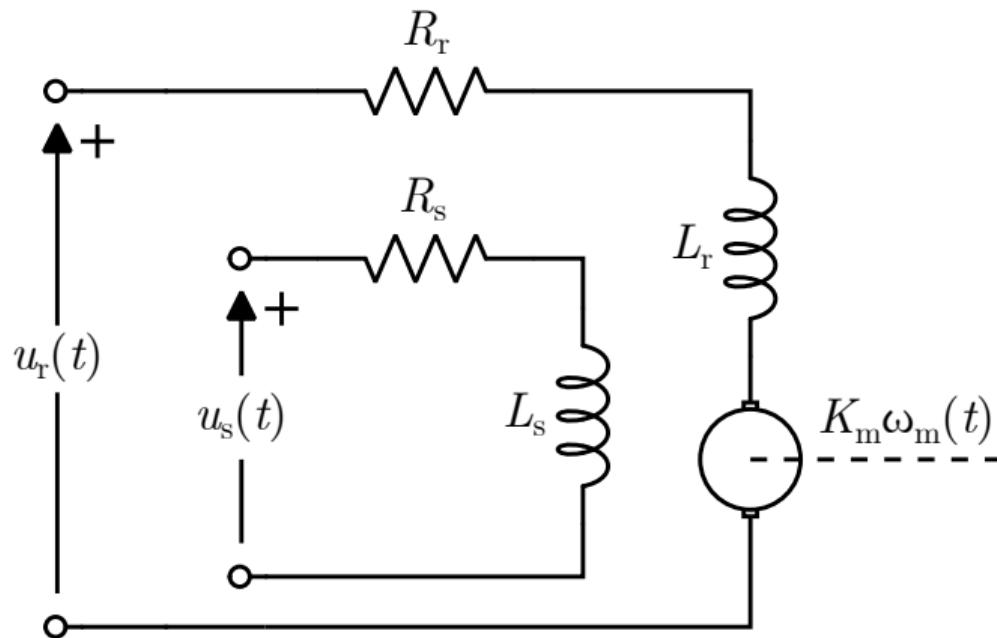
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Table

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table: Table caption

Figure



Citation

An example of the \cite command to cite within the presentation:

This statement requires citation [Smith, 2012].

References



John Smith (2012)

Title of the publication

Journal Name 12(3), 45 – 678.

The End