

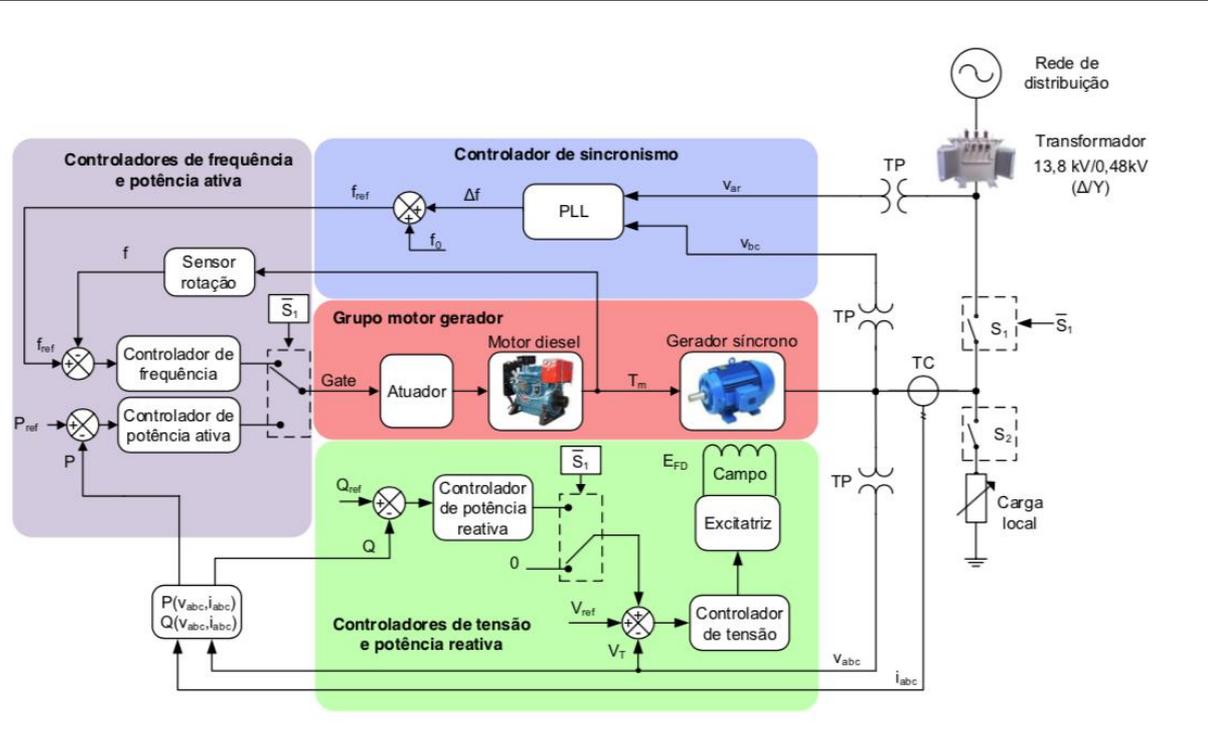


# Controle Não Linear Aplicado

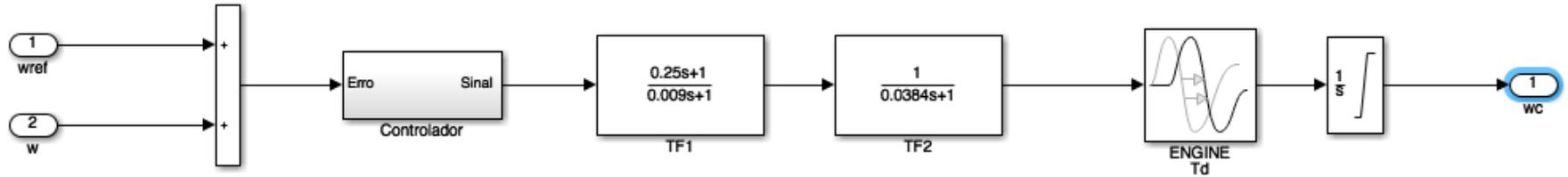
## Controlador Fuzzy PD+I

Prof<sup>a</sup> Dr<sup>a</sup> Vilma Alves de Oliveira  
João Lucas Silveira Silva

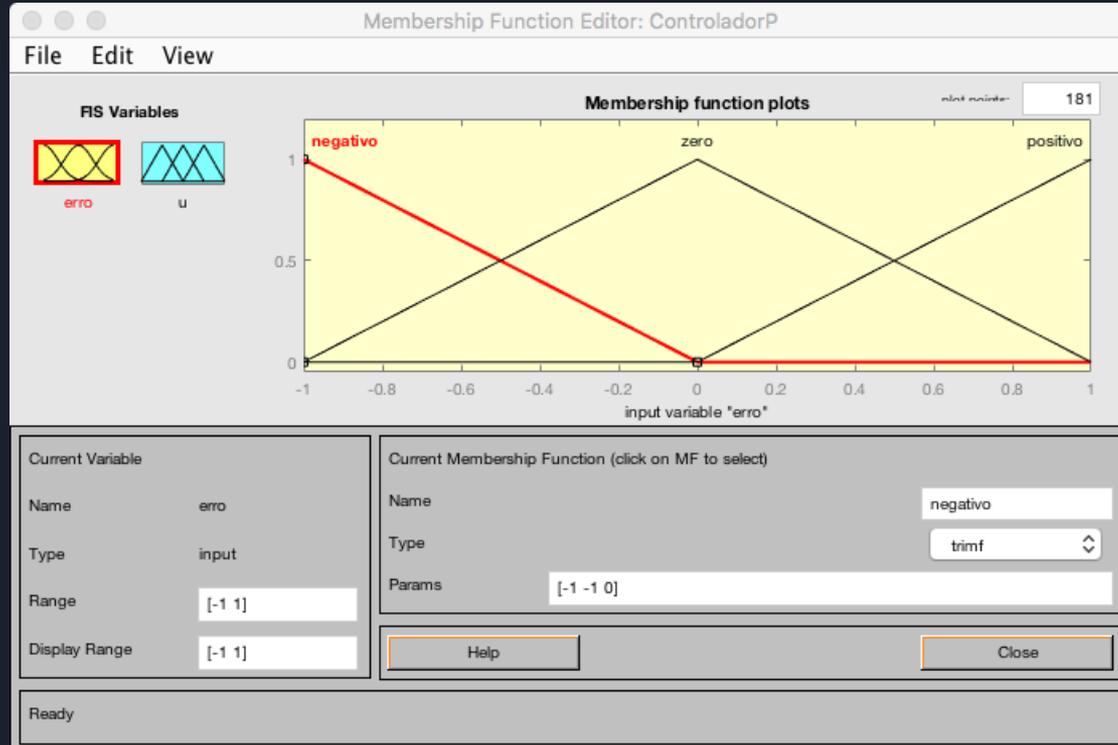
# 1 - Sistema a ser controlado: Gerador Diesel



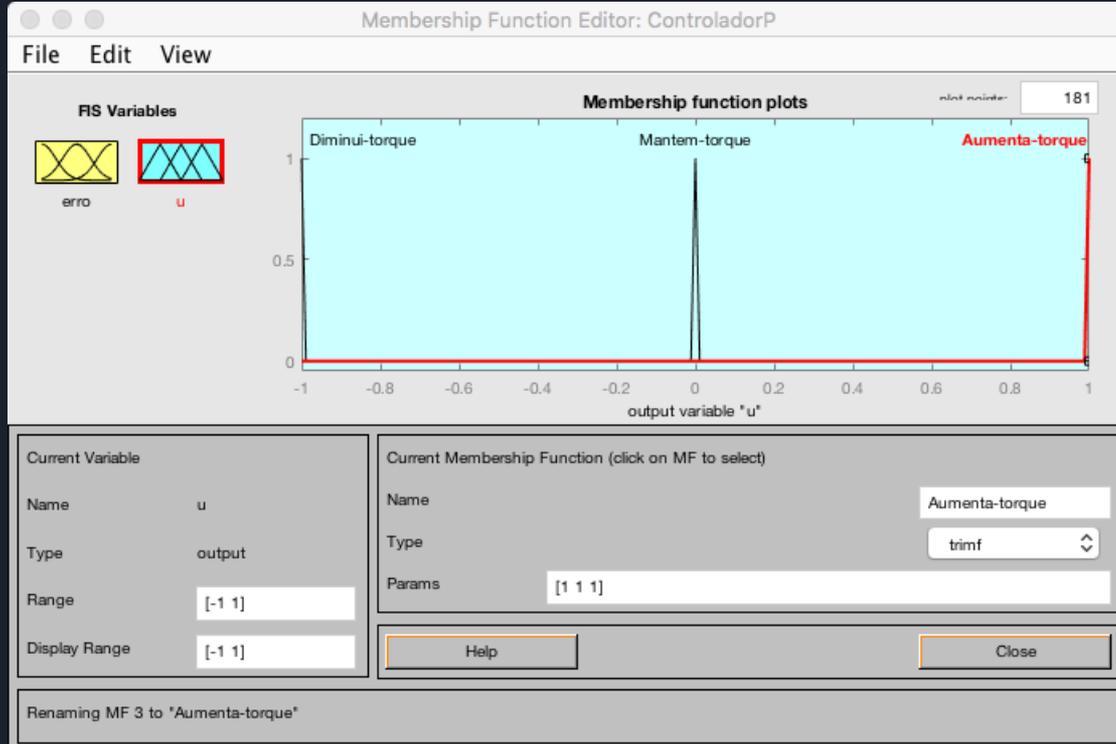
## 2 - Esquema Sistema de controle:



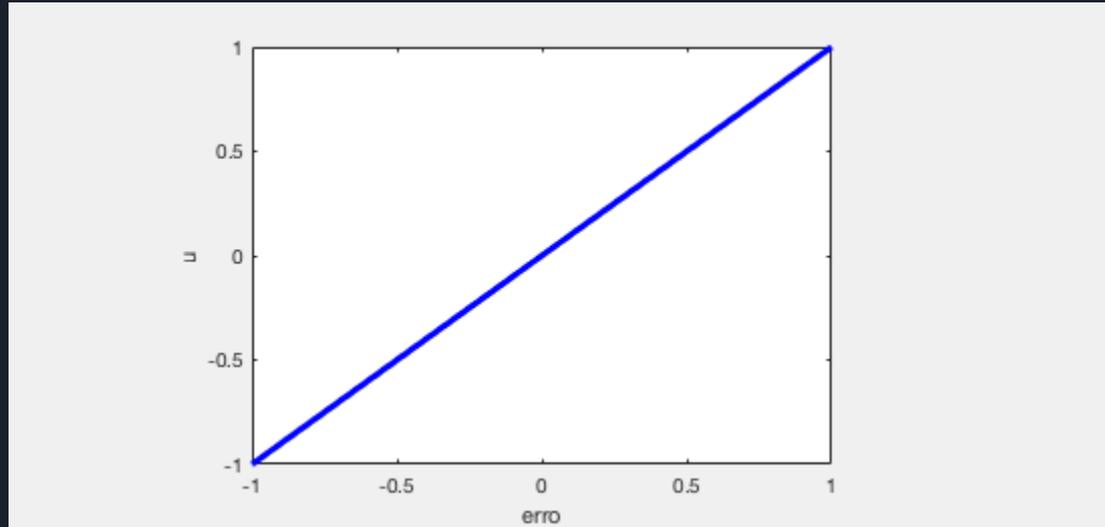
# 3 - Controlador P Fuzzy: Entrada



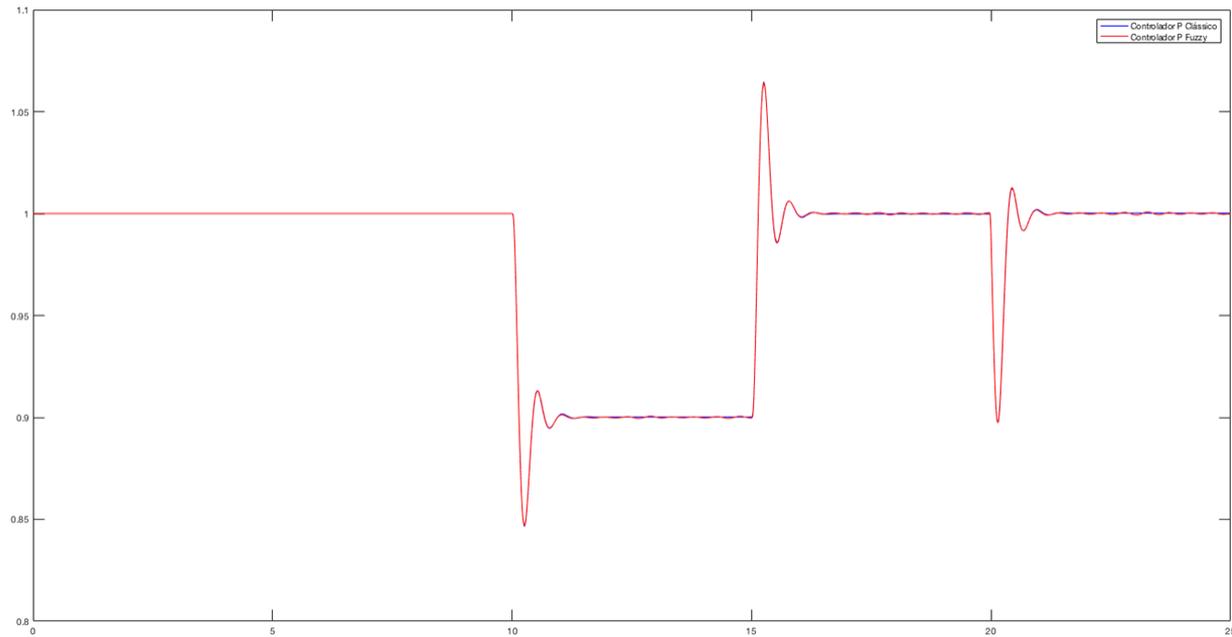
# 4 - Controlador P Fuzzy: Saída



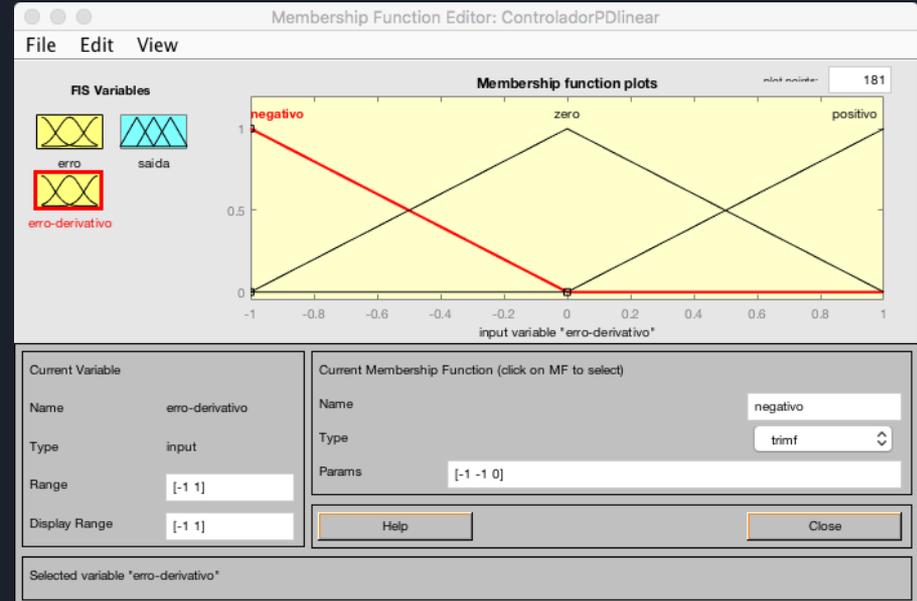
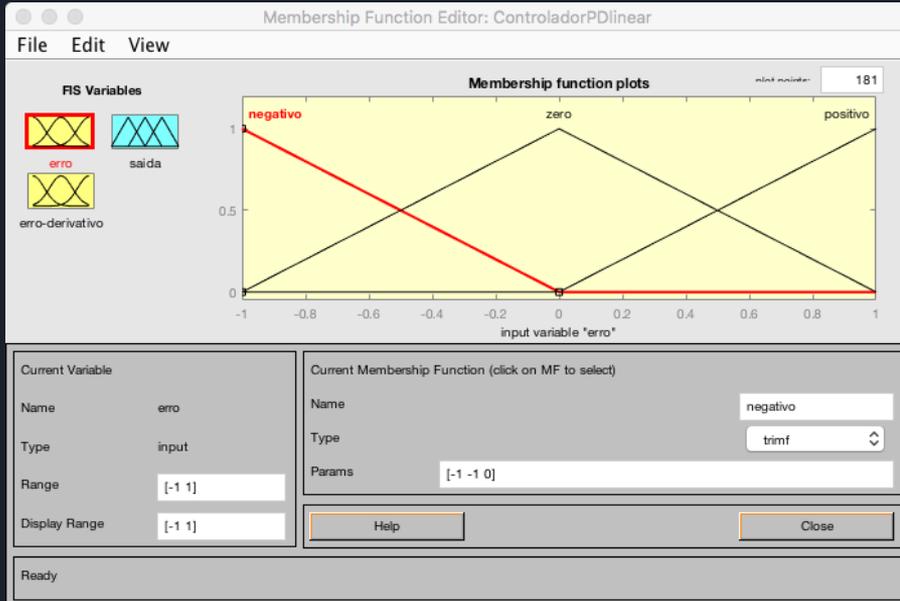
## 5 - Controlador P Fuzzy: Superfície



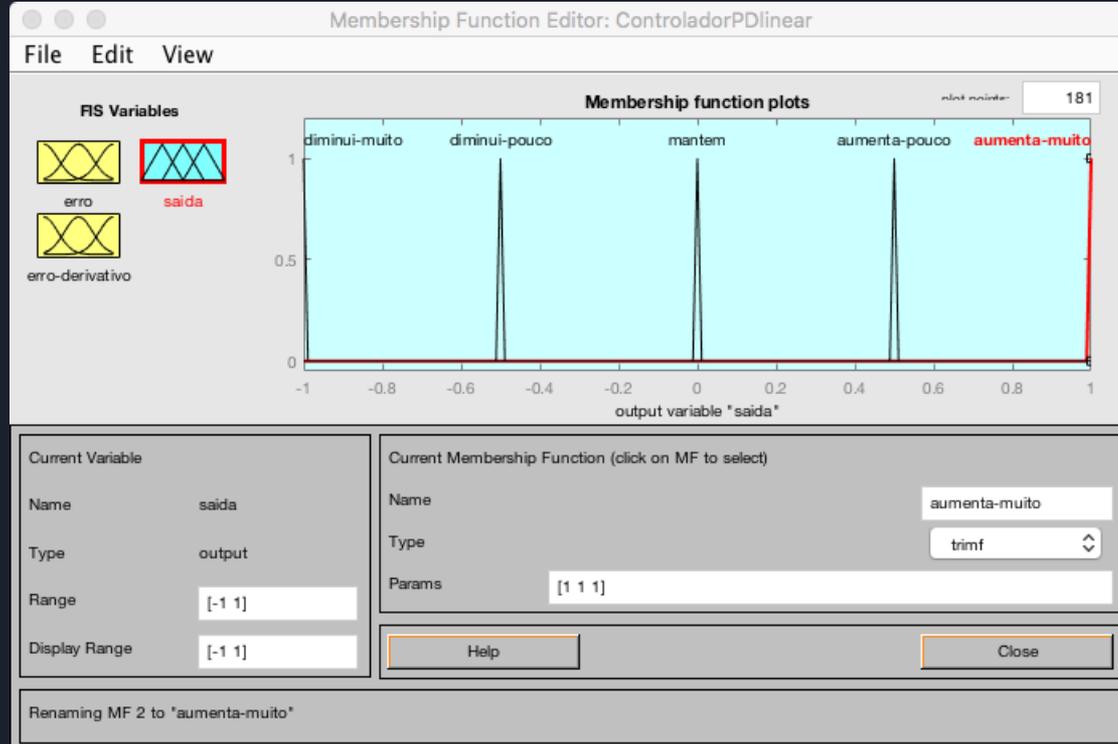
## 6 - Controlador P: Fuzzy x Clássico



# 7 - Controlador PD Linear Fuzzy: Entradas



# 8 - Controlador PD Linear Fuzzy: Saída



# 9 - Controlador PD Linear Fuzzy: Regras

Rule Editor: ControladorPDlinear

File Edit View Options

1. If (erro is negativo) and (erro-derivativo is negativo) then (saida is diminui-muito) (1)
2. If (erro is negativo) and (erro-derivativo is positivo) then (saida is mantem) (1)
3. If (erro is negativo) and (erro-derivativo is zero) then (saida is diminui-pouco) (1)
4. If (erro is zero) and (erro-derivativo is negativo) then (saida is diminui-pouco) (1)
5. If (erro is zero) and (erro-derivativo is positivo) then (saida is aumenta-pouco) (1)
6. If (erro is zero) and (erro-derivativo is zero) then (saida is mantem) (1)
7. If (erro is positivo) and (erro-derivativo is negativo) then (saida is mantem) (1)
8. If (erro is positivo) and (erro-derivativo is positivo) then (saida is aumenta-muito) (1)
9. If (erro is positivo) and (erro-derivativo is zero) then (saida is aumenta-pouco) (1)

If

erro is

- negativo
- zero
- positivo
- none

and

erro-derivativo is

- negativo
- zero
- positivo
- none

Then

saida is

- diminui-muito
- aumenta-muito
- mantem
- diminui-pouco
- aumenta-pouco

not

Connection

or

and

Weight:

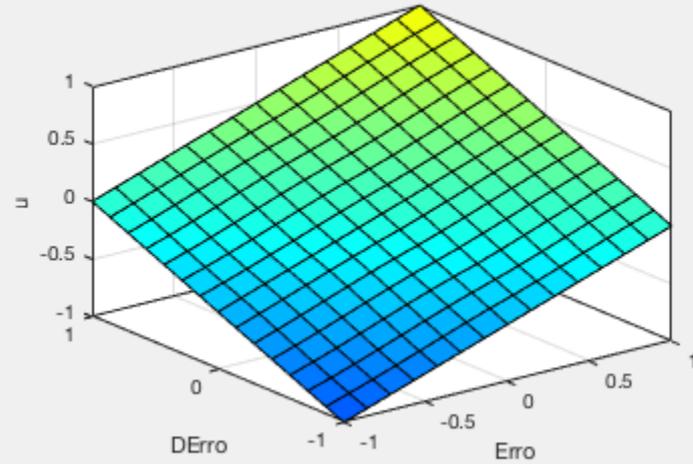
1

Delete rule Add rule Change rule << >>

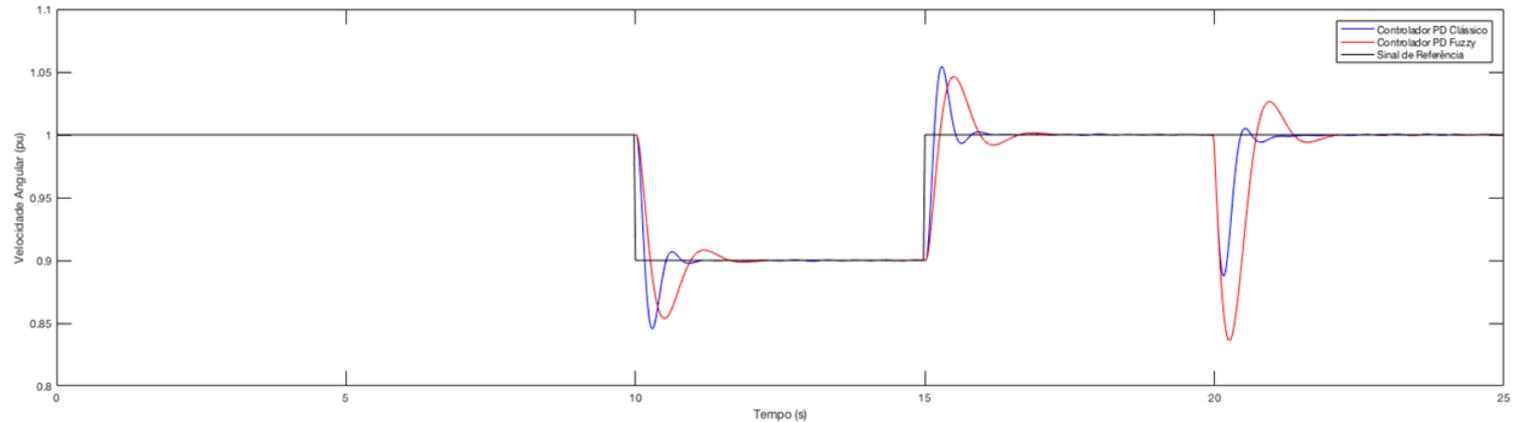
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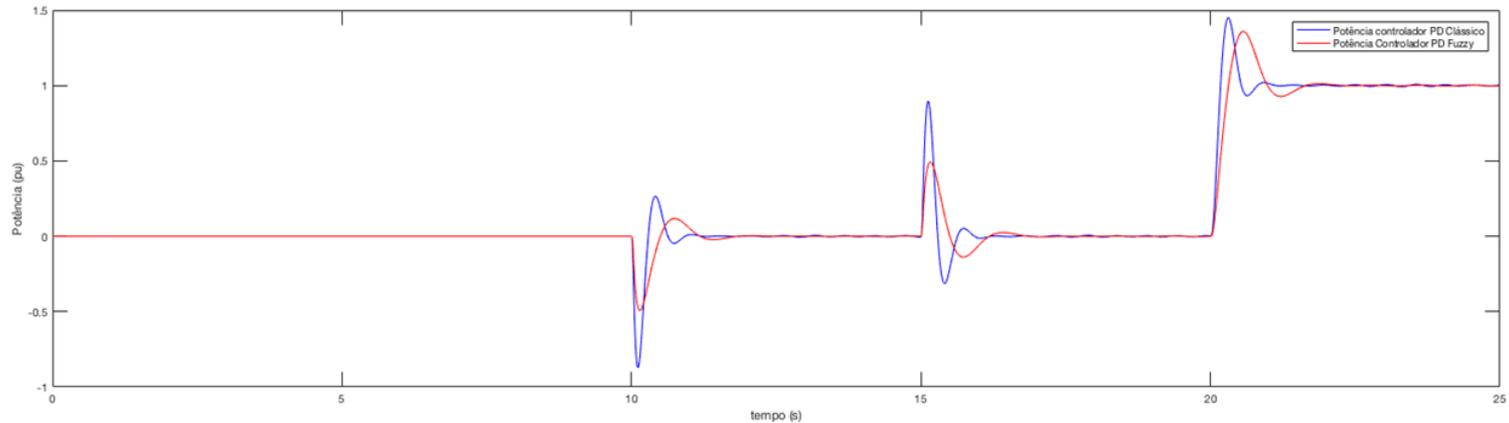
## 10 - Controlador PD Linear Fuzzy: Superfície



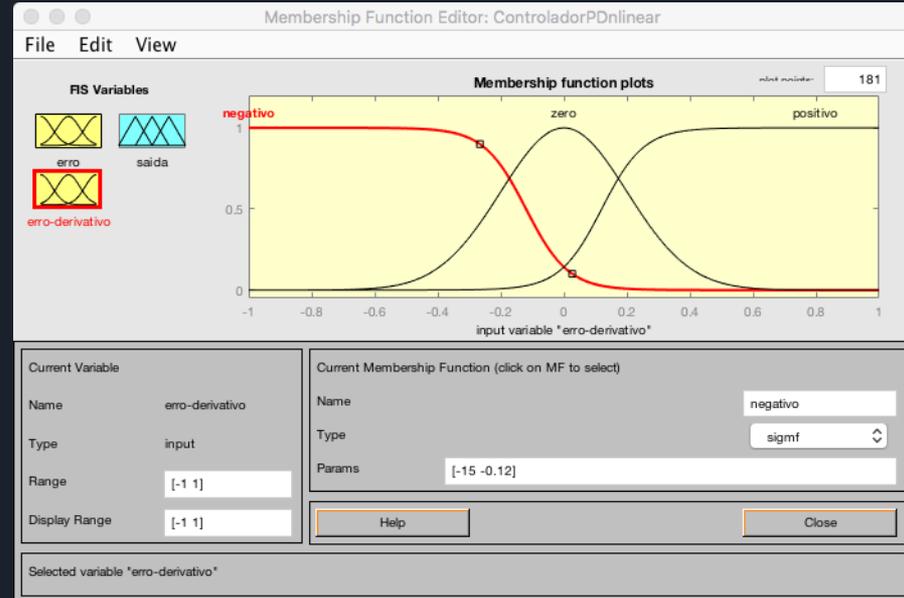
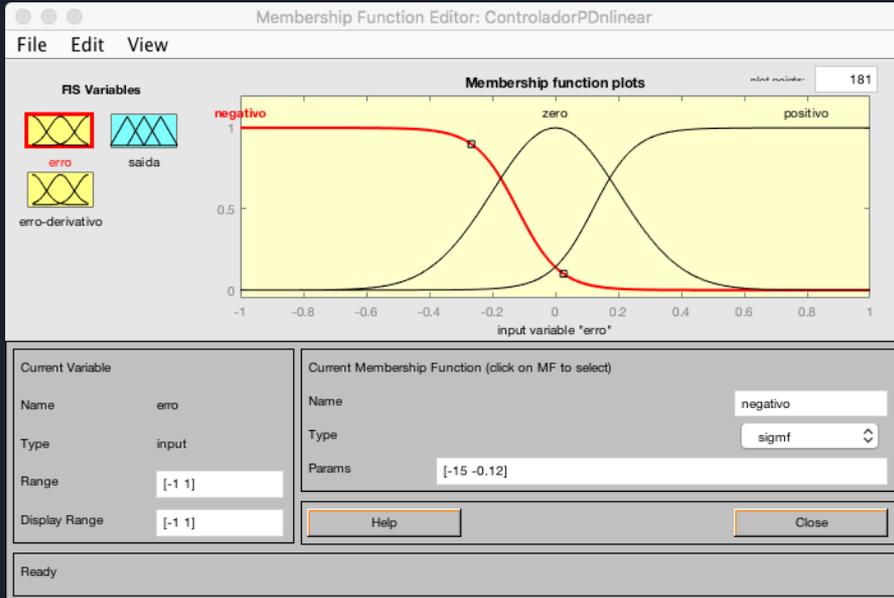
# 11 - Controlador PD Linear: Fuzzy x Clássico



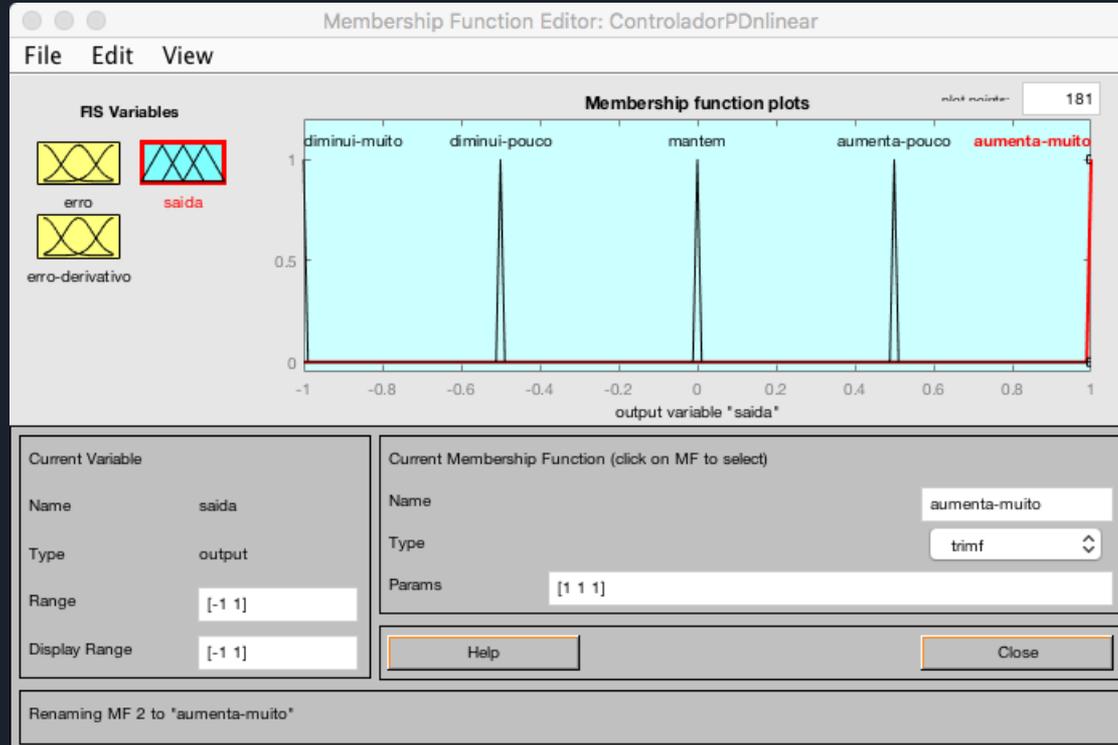
## 12 - Controlador PD Linear: Potência



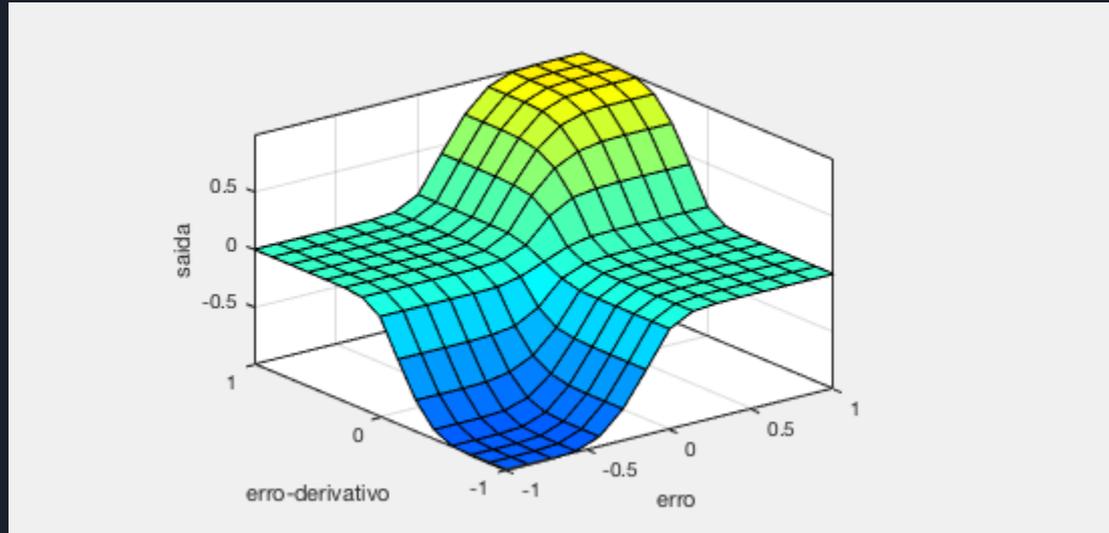
# 13 - Controlador PD Não Linear: Entradas



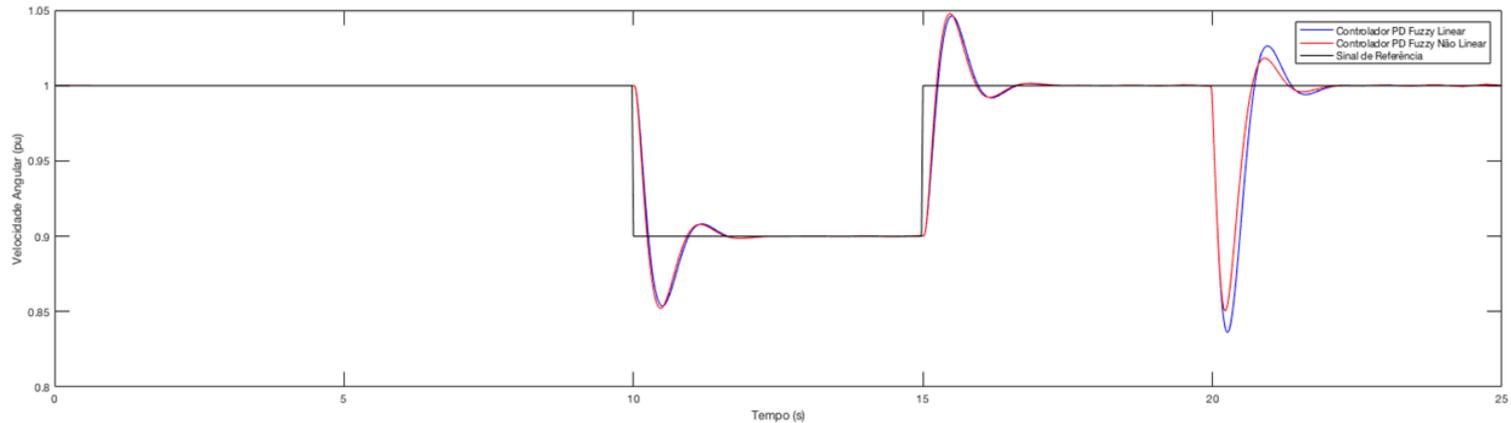
# 14 - Controlador PD Não Linear: Saída



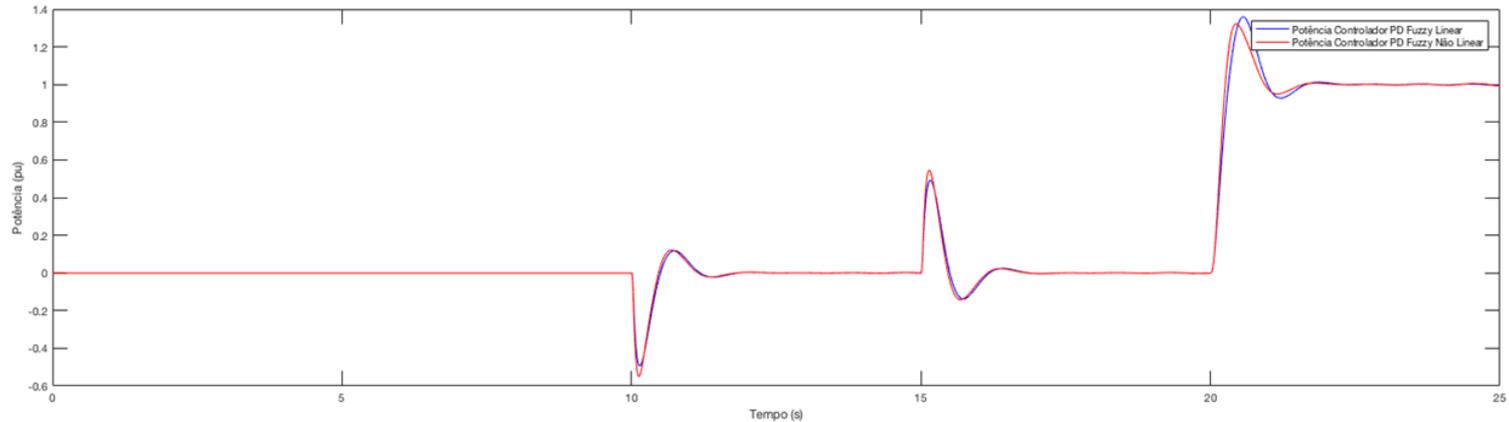
# 15 - Controlador PD Não Linear: Superfície



# 16 - Controlador PD: Não Linear x Linear



# 17 - Controlador PD: Não Linear x Linear Potência



# 18 - Controlador Fuzzy: PD X PD+I

