



```
% La calibración se ha realizado dejando las posiciones de los sliders para
% el trim ajustado a los cuadrados blancos
```

```
% Cargamos los datos
```

```
A = importdata("datos_calibración.txt");
```

```
CH1 = A(:,2);
```

```
CH2 = A(:,3);
```

```
CH3 = A(:,4);
```

```
CH4 = A(:,5);
```

```
CH5 = A(:,6);
```

```
CH6 = A(:,7);
```

```
% Limite Superior
```

```
% Limite Inferior
```

```
% Limite Central Superior (Zona muerta)
```

```
% Limite Central Inferior (Zona muerta)
```

```
% LS, LI, LCI, LCS
```

```
C_CH1 = [1990, 1205, 1590, 1605];
```

```
C_CH2 = [1765, 1070, 1410, 1425];
```

```
C_CH3 = [1760, 1100];
```

```
C_CH4 = [1840, 1062, 1458, 1444];
```

```
C_CH5 = [1900, 1100];
```

```
C_CH6 = [1920, 1120];
```

```
% Son simetricos?
```

```
m1 = abs(C_CH1(1)-C_CH1(4))
```

```
m1 = 385
```

```
abs(C_CH1(2)-C_CH1(3))
```

```
ans = 385
```

```
abs(C_CH1(1)-C_CH1(4)) == abs(C_CH1(2)-C_CH1(3))
```

```
ans = logical
```

```
1
```

```
sat_CH1 = CH1;
```

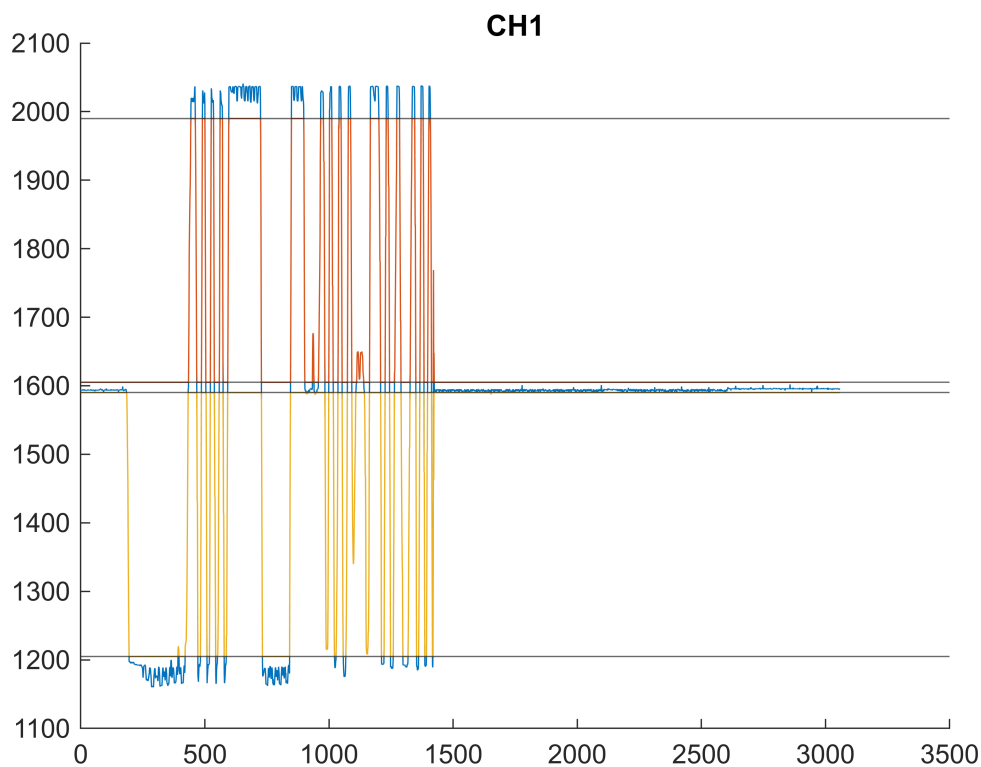
```

sat_CH1 = min(sat_CH1, C_CH1(1));
sat_CH1 = max(sat_CH1, C_CH1(4));

sat2_CH1 = CH1;
sat2_CH1 = min(sat2_CH1, C_CH1(3));
sat2_CH1 = max(sat2_CH1, C_CH1(2));

figure; hold on;
plot(CH1)
plot(sat_CH1)
plot(sat2_CH1)
yline(C_CH1)
title("CH1")

```

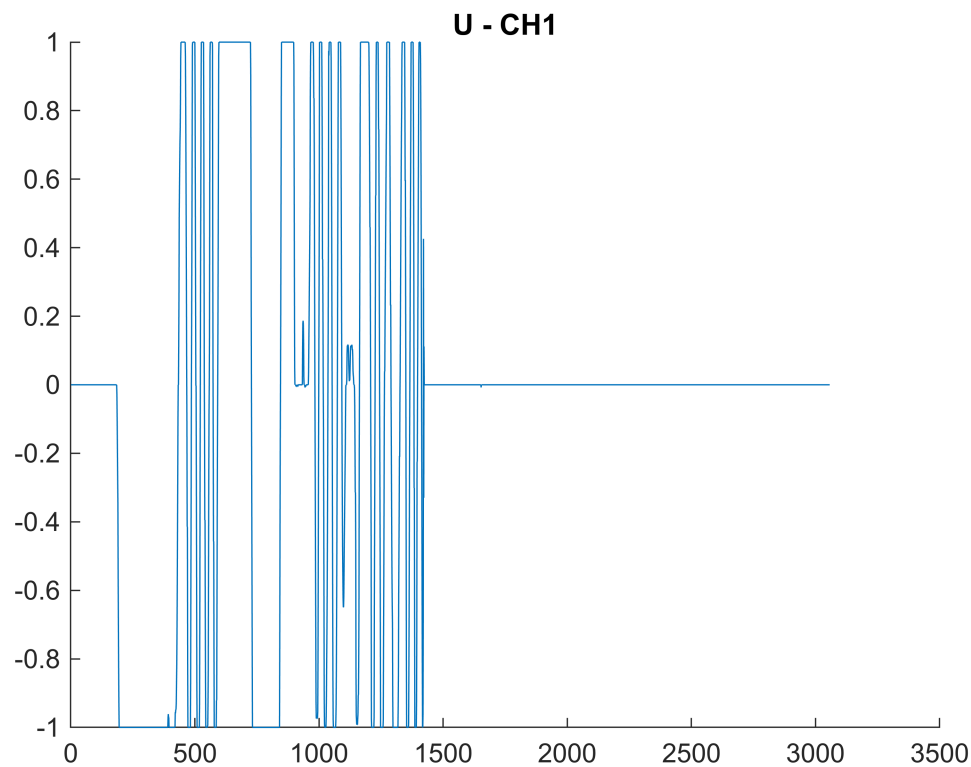


```

u1_CH1 = (1/m1)*(sat_CH1 - C_CH1(4));
u2_CH1 = (1/m1)*(sat2_CH1 - C_CH1(3));

figure; hold on;
% plot(u1_CH1)
% plot(u2_CH1)
plot(u1_CH1+u2_CH1)
title("U - CH1")

```



```
% Son simetricos?
```

```
m2 = abs(C_CH2(1)-C_CH2(4))
```

```
m2 = 340
```

```
abs(C_CH2(2)-C_CH2(3))
```

```
ans = 340
```

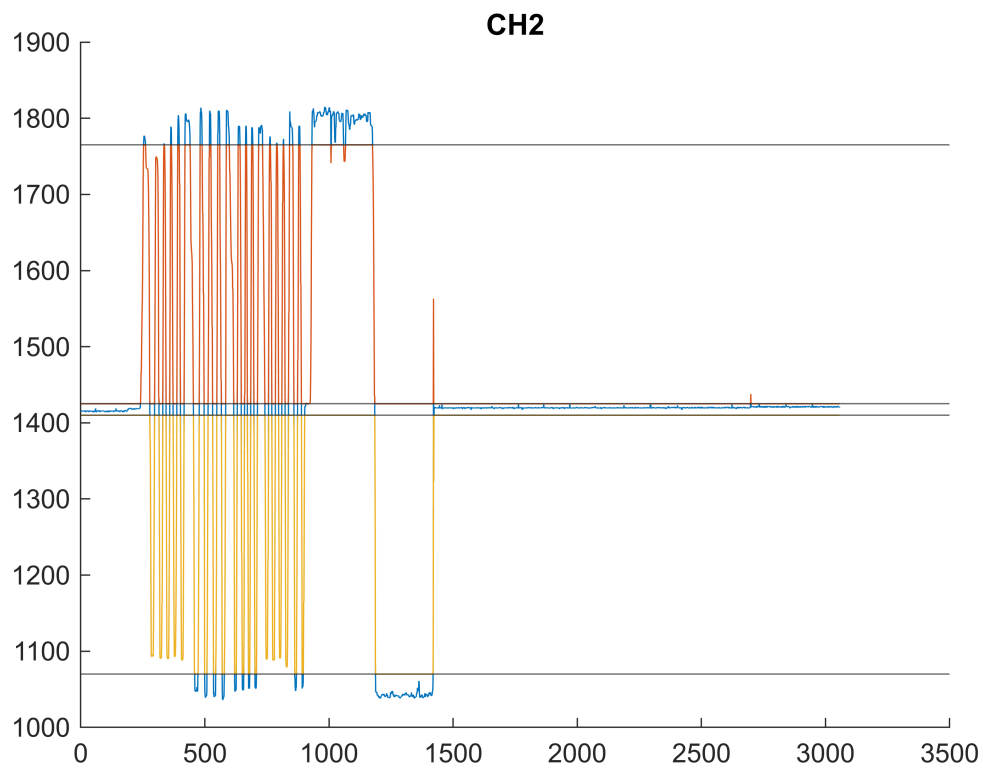
```
abs(C_CH2(1)-C_CH2(4)) == abs(C_CH2(2)-C_CH2(3))
```

```
ans = logical  
1
```

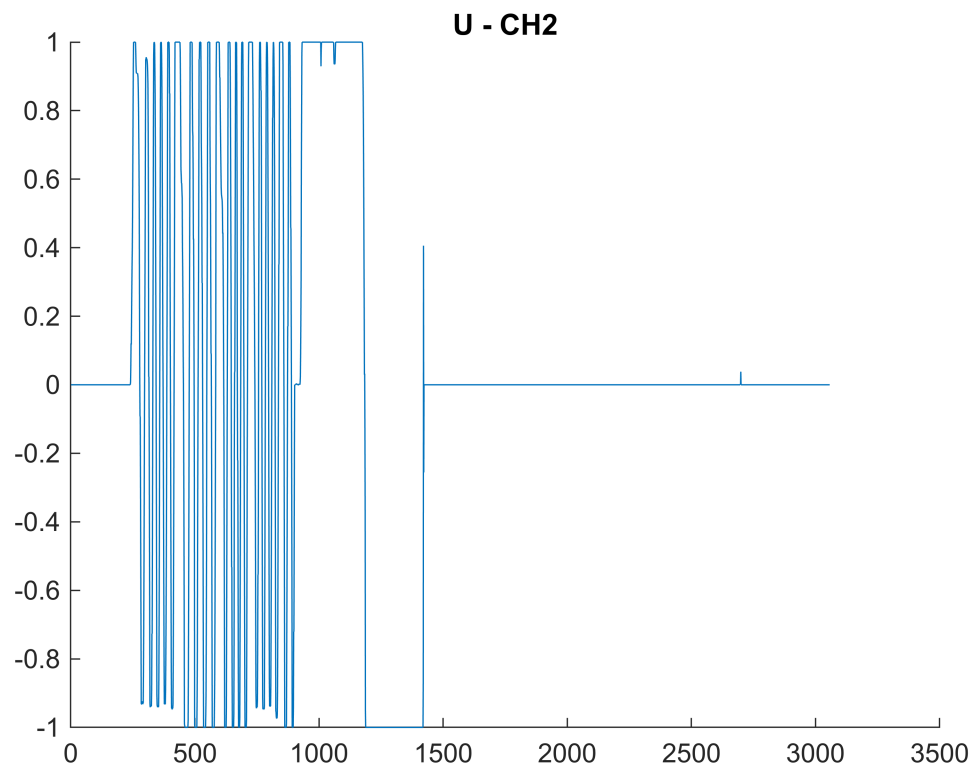
```
sat_CH2 = CH2;  
sat_CH2 = min(sat_CH2, C_CH2(1));  
sat_CH2 = max(sat_CH2, C_CH2(4));
```

```
sat2_CH2 = CH2;  
sat2_CH2 = min(sat2_CH2, C_CH2(3));  
sat2_CH2 = max(sat2_CH2, C_CH2(2));
```

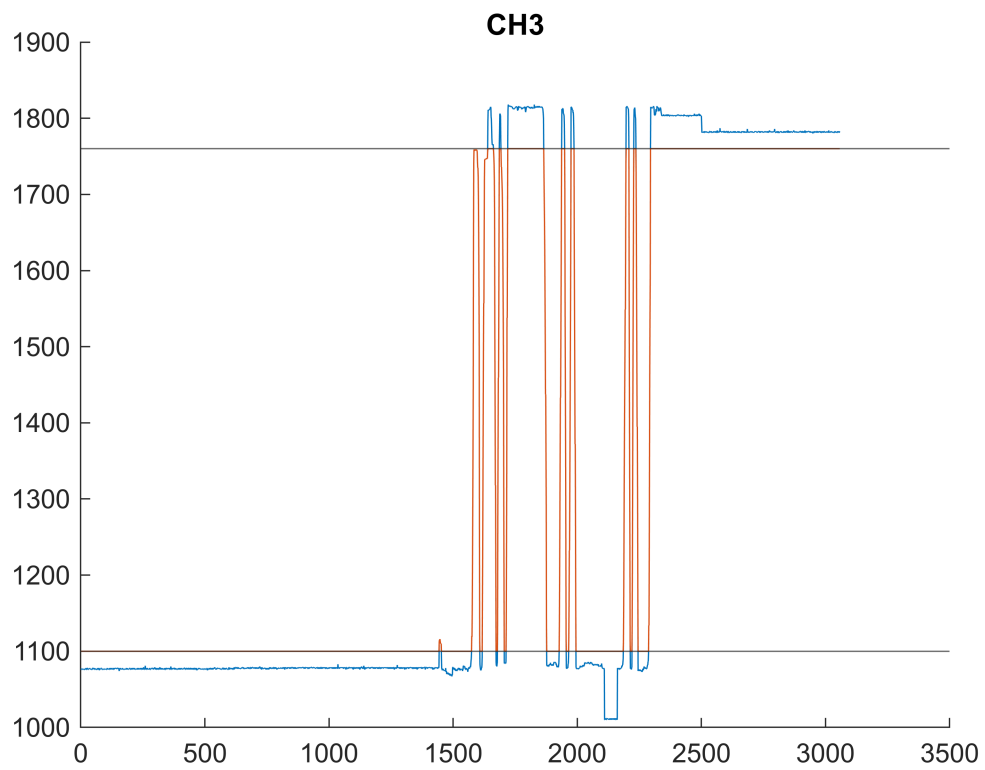
```
figure; hold on;  
plot(CH2)  
plot(sat_CH2)  
plot(sat2_CH2)  
yline(C_CH2)  
title("CH2")
```



```
u1_CH2 = (1/m2)*(sat_CH2 - C_CH2(4));  
u2_CH2 = (1/m2)*(sat2_CH2 - C_CH2(3));  
  
figure; hold on;  
% plot(u1_CH2)  
% plot(u2_CH2)  
plot(u1_CH2+u2_CH2)  
title("U - CH2")
```

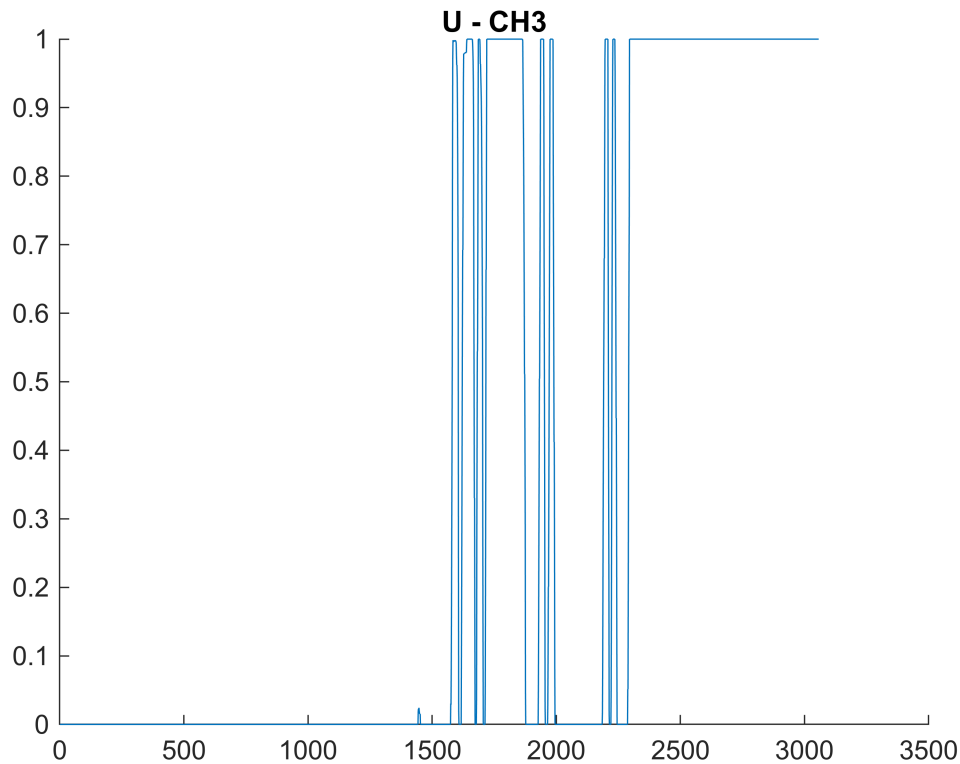


```
m3 = abs(C_CH3(1)-C_CH3(2));  
  
sat_CH3 = CH3;  
sat_CH3 = min(sat_CH3, C_CH3(1));  
sat_CH3 = max(sat_CH3, C_CH3(2));  
  
figure; hold on;  
plot(CH3)  
plot(sat_CH3)  
yline(C_CH3)  
title("CH3")
```



```
u_CH3 = (1/m3)*(sat_CH3 - C_CH3(2));
```

```
figure; hold on;  
plot(u_CH3)  
title("U - CH3")
```



```
% Son simetricos?
```

```
m4 = abs(C_CH4(1)-C_CH4(4))
```

```
m4 = 396
```

```
abs(C_CH4(2)-C_CH4(3))
```

```
ans = 396
```

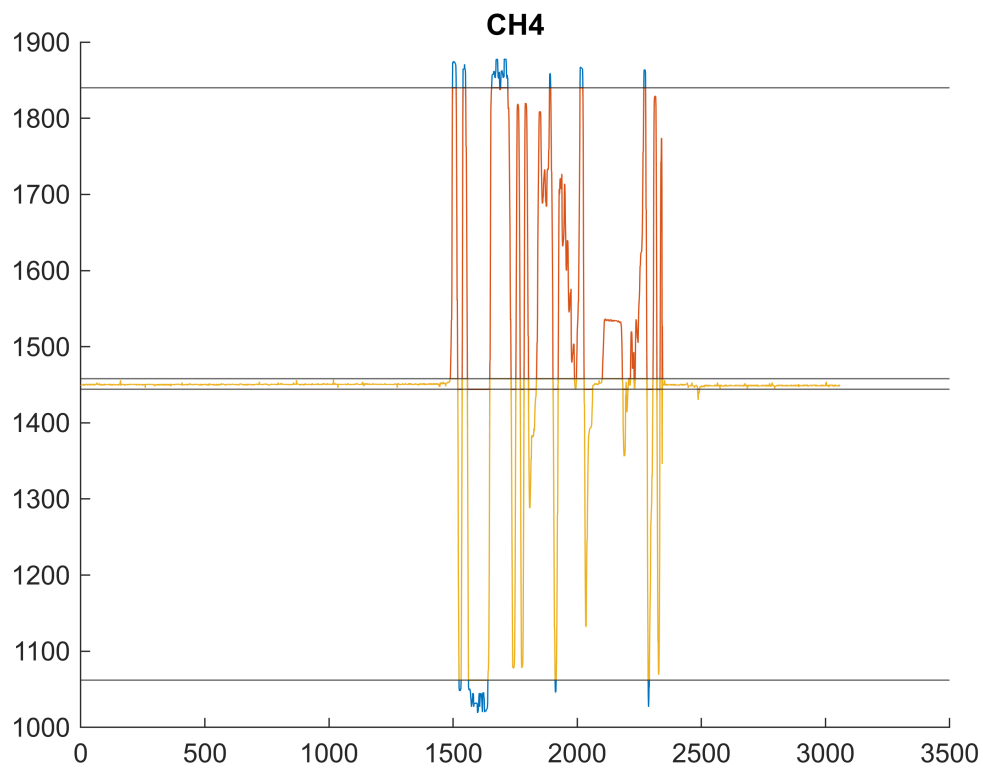
```
abs(C_CH4(1)-C_CH4(4)) == abs(C_CH4(2)-C_CH4(3))
```

```
ans = logical  
1
```

```
sat_CH4 = CH4;  
sat_CH4 = min(sat_CH4, C_CH4(1));  
sat_CH4 = max(sat_CH4, C_CH4(4));
```

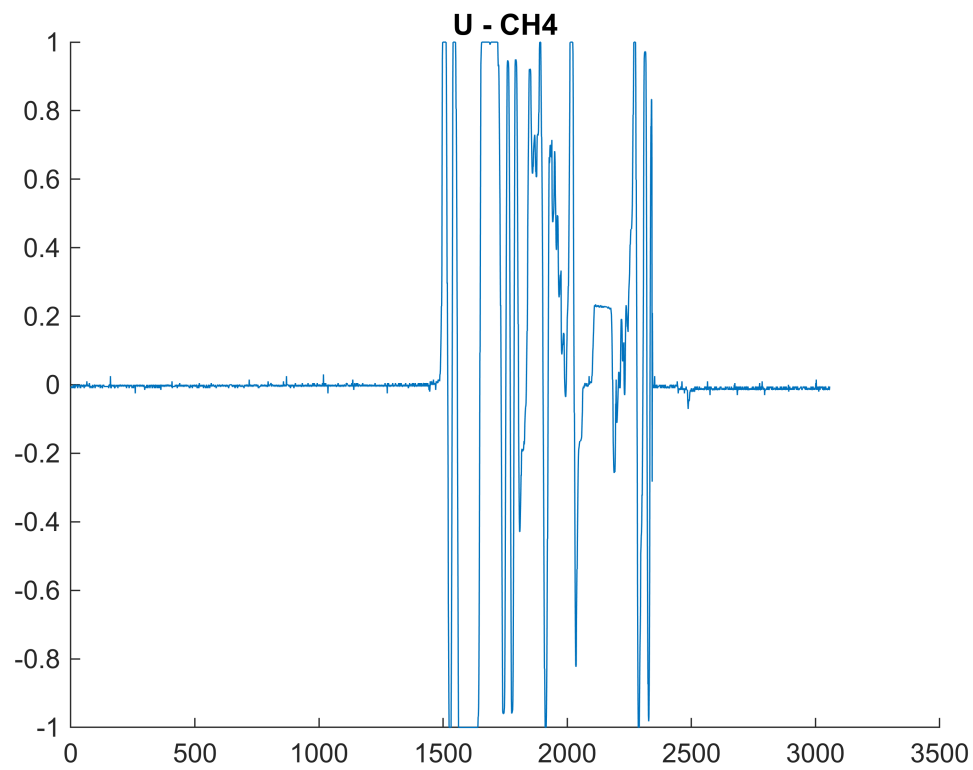
```
sat2_CH4 = CH4;  
sat2_CH4 = min(sat2_CH4, C_CH4(3));  
sat2_CH4 = max(sat2_CH4, C_CH4(2));
```

```
figure; hold on;  
plot(CH4)  
plot(sat_CH4)  
plot(sat2_CH4)  
yline(C_CH4)  
title("CH4")
```



```
u1_CH4 = (1/m4)*(sat_CH4 - C_CH4(4));
u2_CH4 = (1/m4)*(sat2_CH4 - C_CH4(3));
```

```
figure; hold on;
% plot(u1_CH4)
% plot(u2_CH4)
plot(u1_CH4+u2_CH4)
title("U - CH4")
```

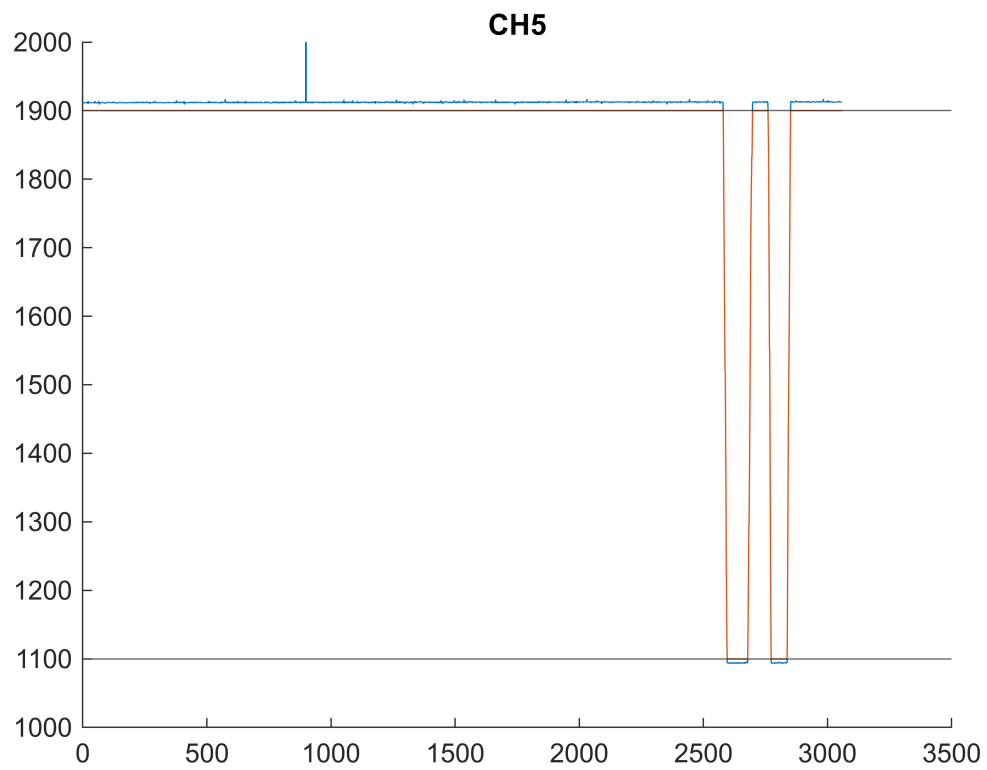
```

m5 = abs(C_CH5(1)-C_CH5(2));

sat_CH5 = CH5;
sat_CH5 = min(sat_CH5, C_CH5(1));
sat_CH5 = max(sat_CH5, C_CH5(2));

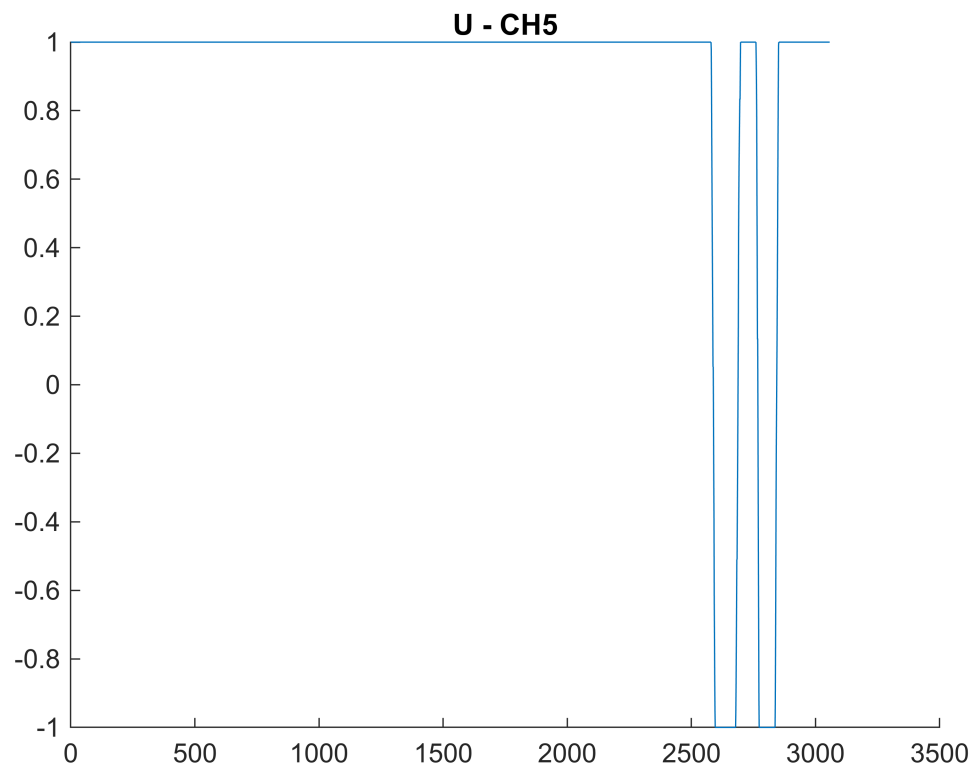
figure; hold on;
plot(CH5)
plot(sat_CH5)
yline(C_CH5)
title("CH5")
ylim([1000 2000])

```

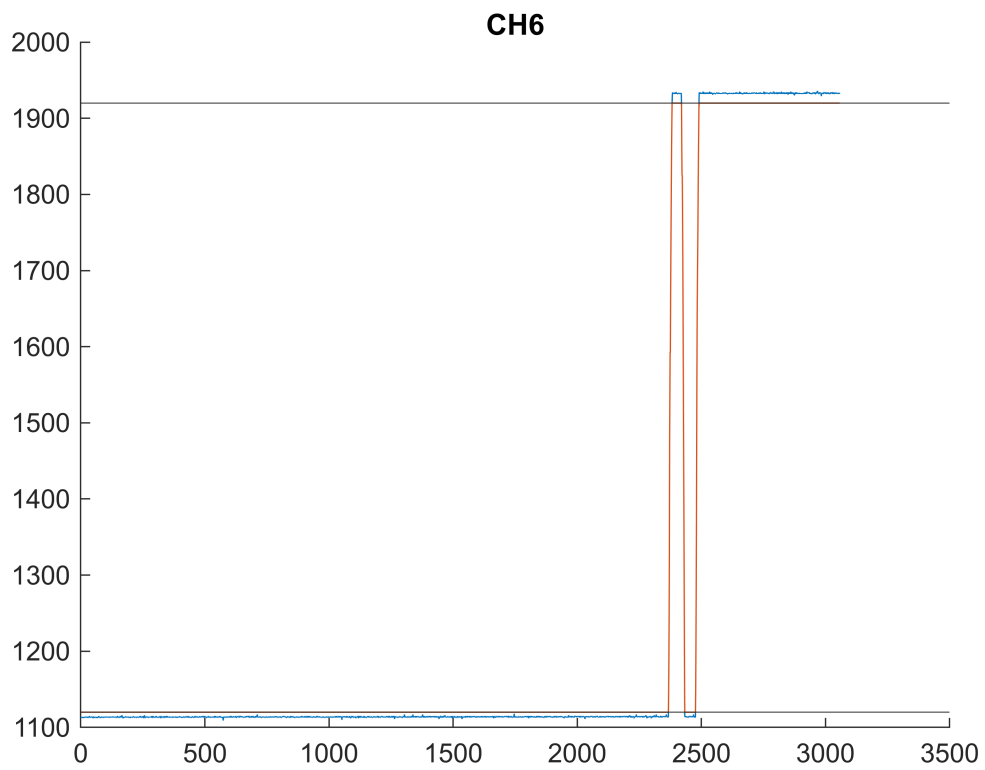


```
u_CH5 = (1/(m5/2))*(sat_CH5 - mean(C_CH5));
```

```
figure; hold on;  
plot(u_CH5)  
title("U - CH5")
```



```
m6 = abs(C_CH6(1)-C_CH6(2));  
  
sat_CH6 = CH6;  
sat_CH6 = min(sat_CH6, C_CH6(1));  
sat_CH6 = max(sat_CH6, C_CH6(2));  
  
figure; hold on;  
plot(CH6)  
plot(sat_CH6)  
yline(C_CH6)  
title("CH6")
```



```
u_CH6 = (1/m6)*(sat_CH6 - C_CH6(2));
```

```
figure; hold on;
```

```
plot(u_CH6)
```

```
title("U - CH6")
```

