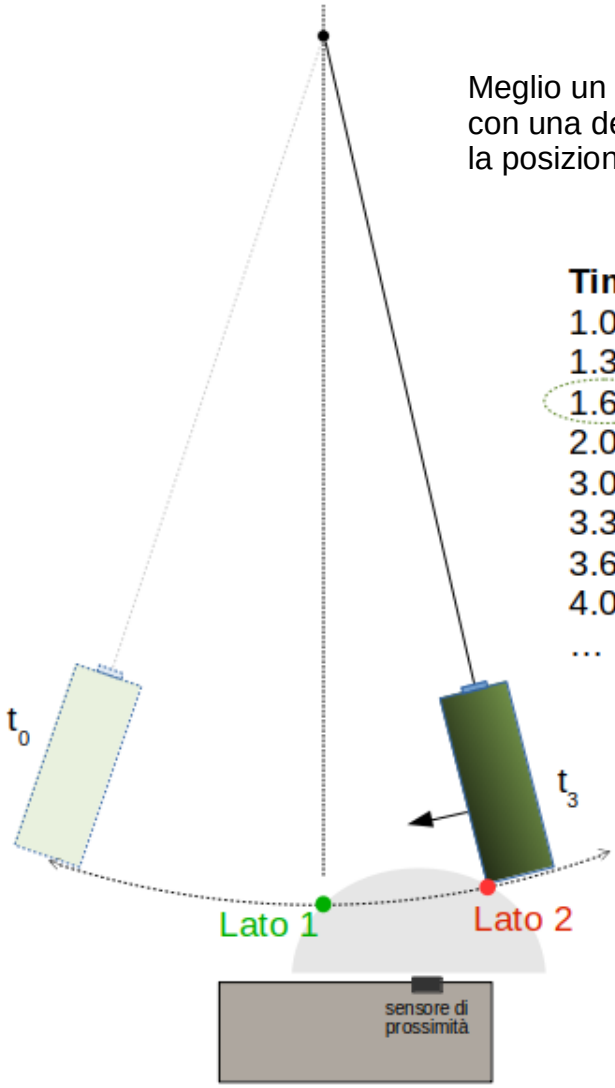
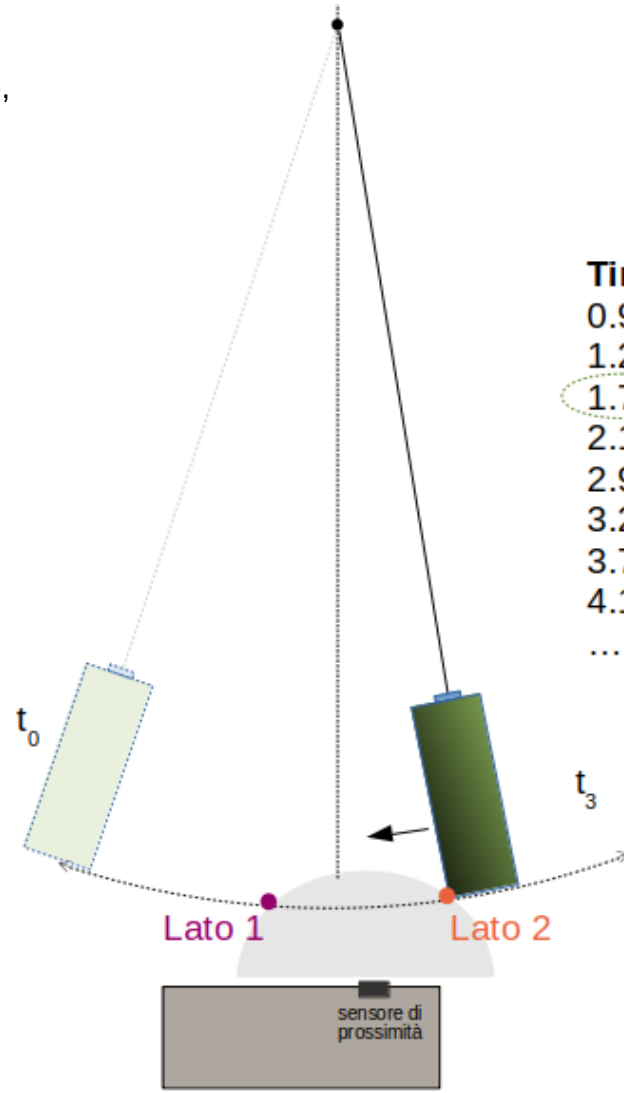
Questioni legate al posizionamento del sensore rispetto al centro dell'oscillazione

Meglio un posizionamento asimmetrico, con una delle due soglie allineata con la posizione a riposo!

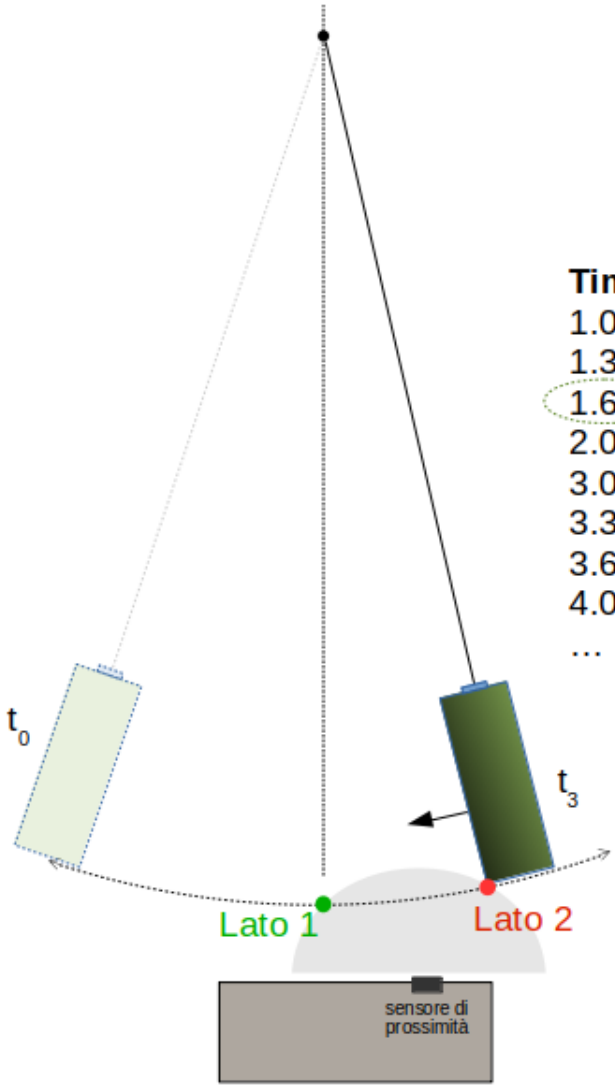
Time	Distance	
1.00	0	Lato 1
1.35	5	Lato 2
1.65	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.35	5	Lato 2
3.65	0	Lato 2
4.00	5	Lato 1
…	…	



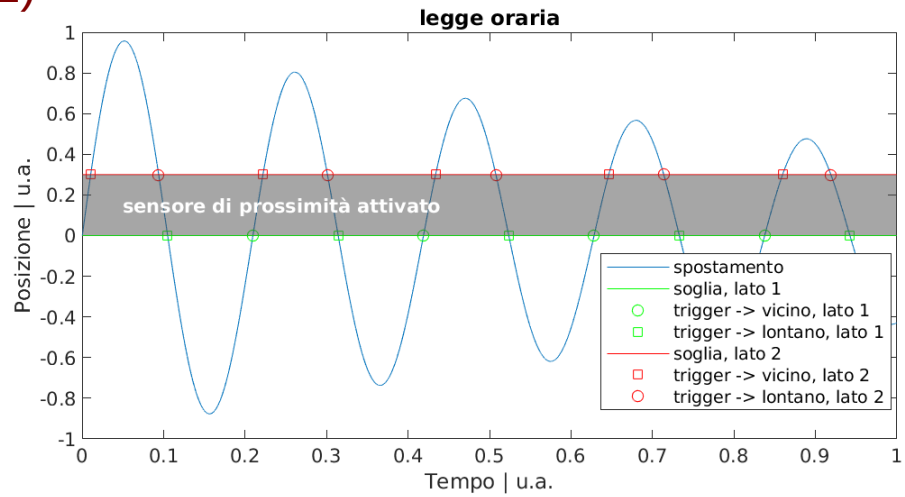
Time	Distance	
0.90	0	Lato 1
1.25	5	Lato 2
1.75	0	Lato 2
2.10	5	Lato 1
2.90	0	Lato 1
3.25	5	Lato 2
3.75	0	Lato 2
4.10	5	Lato 1
…	…	

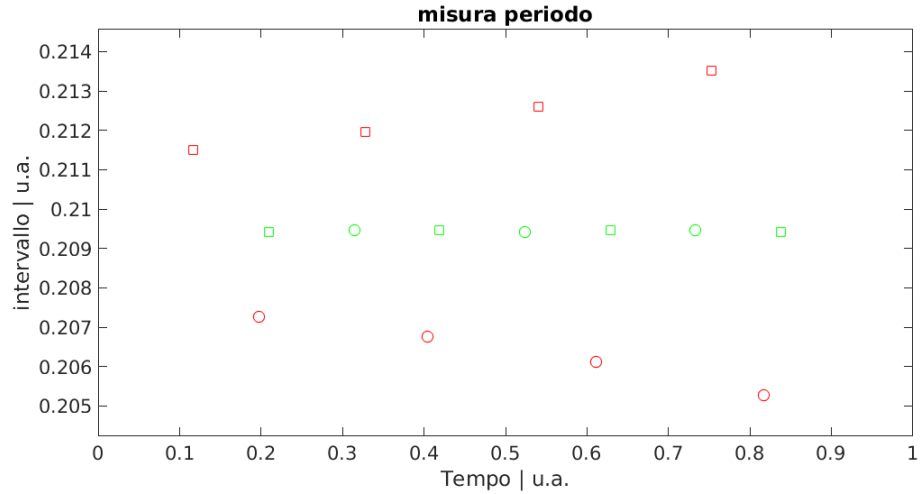


Questioni legate al posizionamento del sensore (2)

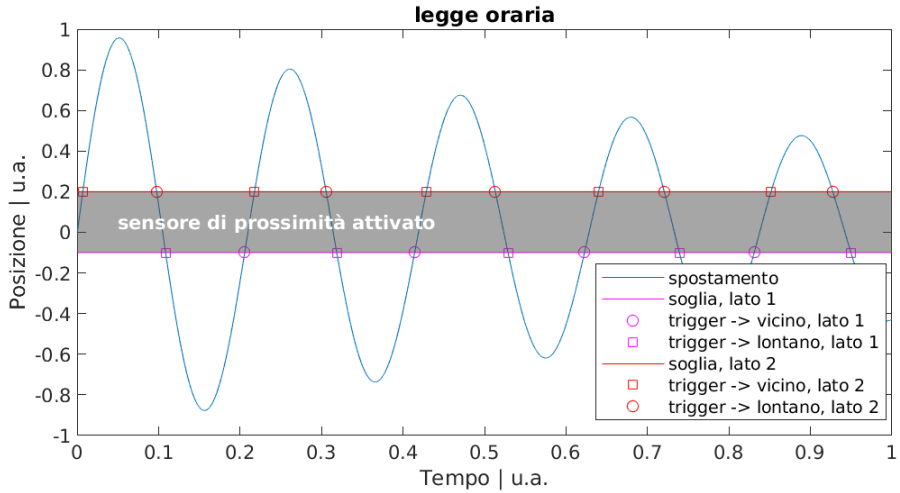


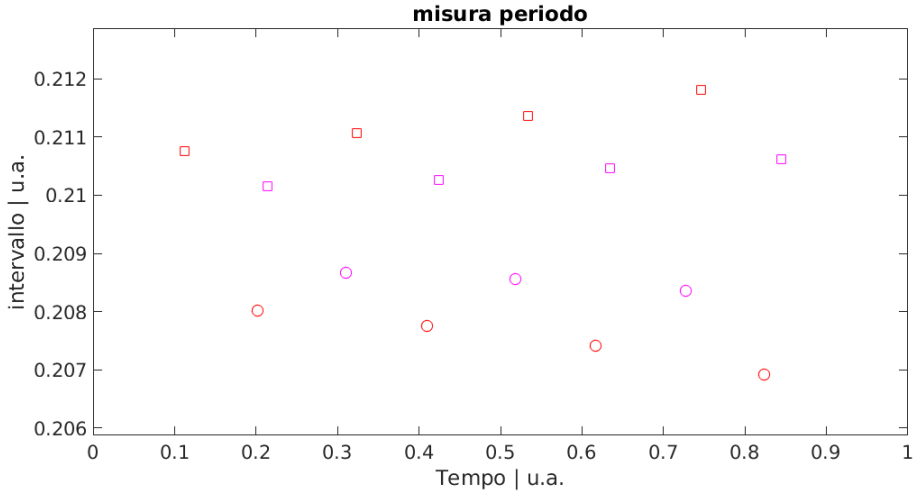
Time	Distance	
1.00	0	Lato 1
1.35	5	Lato 2
1.65	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.35	5	Lato 2
3.65	0	Lato 2
4.00	5	Lato 1
…	…	

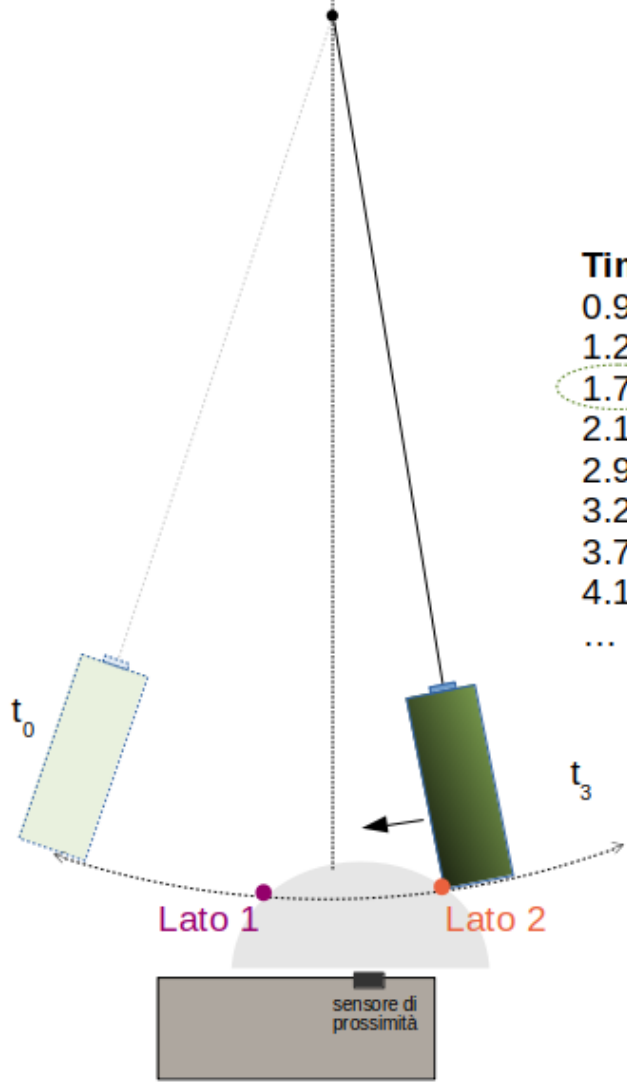




Questioni legate al posizionamento del sensore (3)

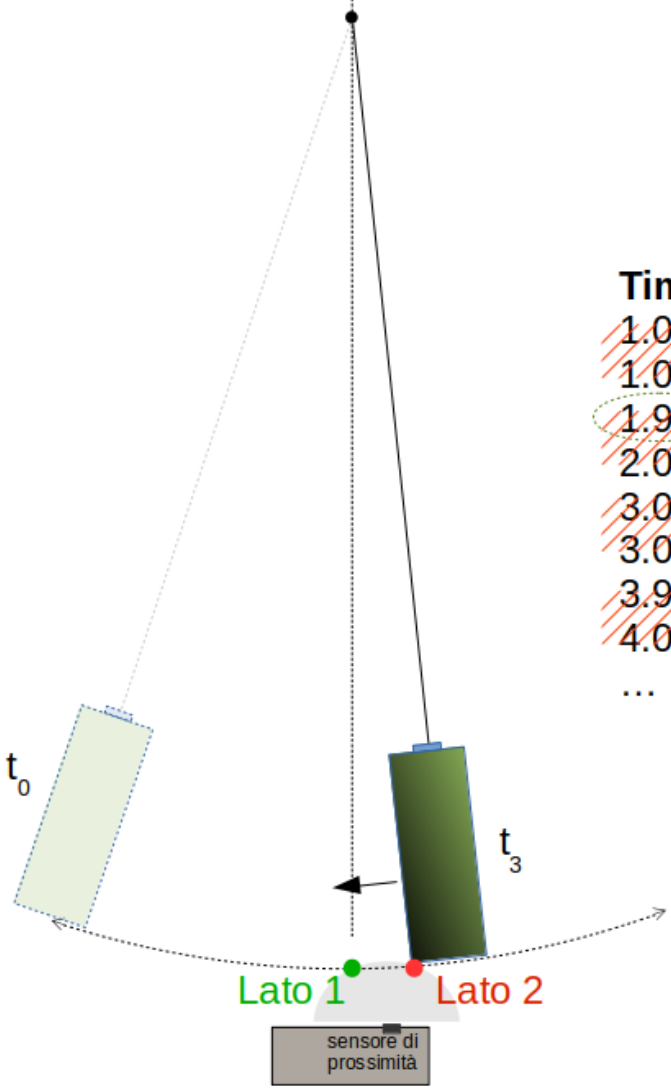




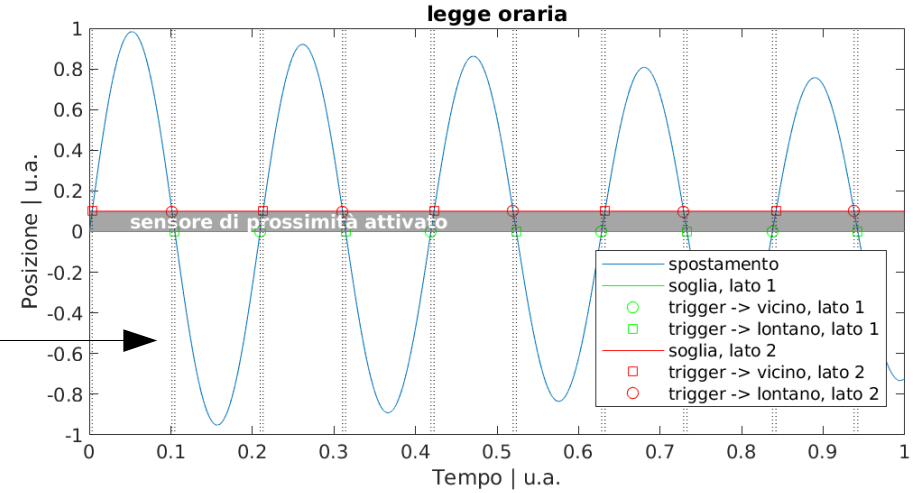


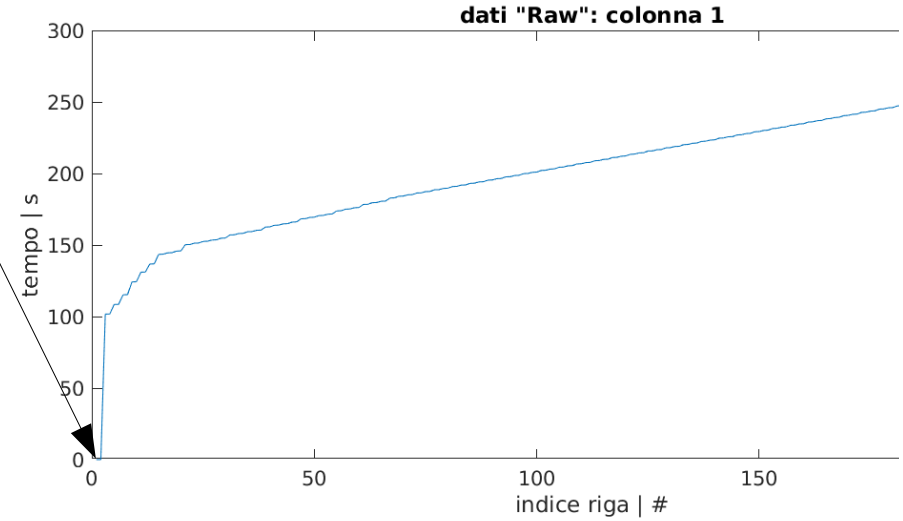
Time	Distance	
0.90	0	Lato 1
1.25	5	Lato 2
1.75	0	Lato 2
2.10	5	Lato 1
2.90	0	Lato 1
3.25	5	Lato 2
3.75	0	Lato 2
4.10	5	Lato 1
…	…	

Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione

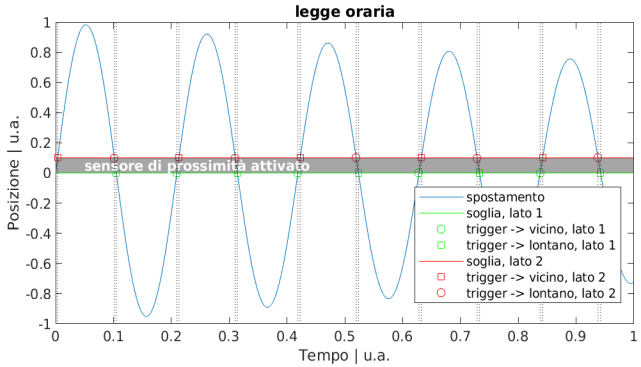


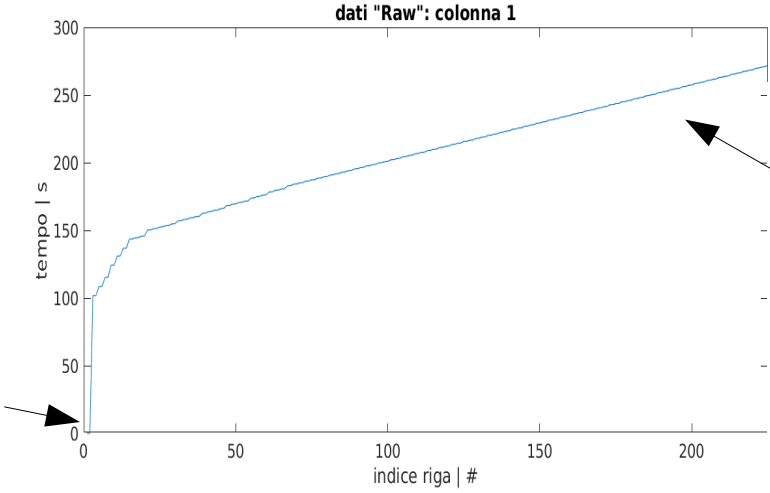
Time	Distance	
1.00	0	Lato 1
1.05	5	Lato 2
1.95	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.05	5	Lato 2
3.95	0	Lato 2
4.00	5	Lato 1
…	…	

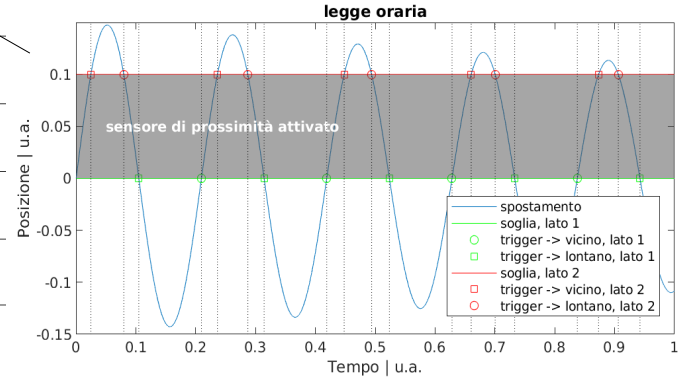


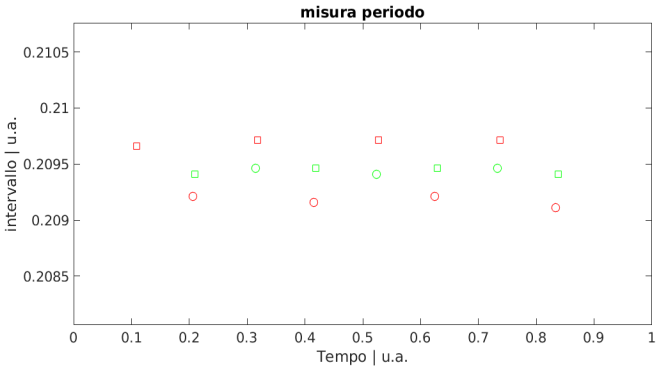


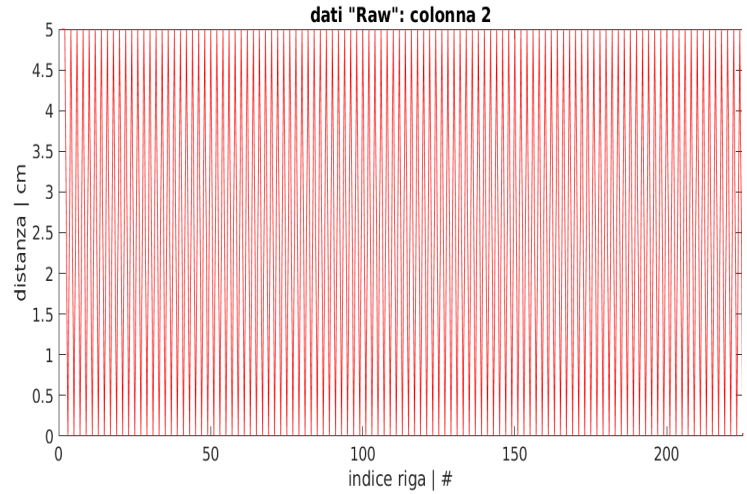
Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione

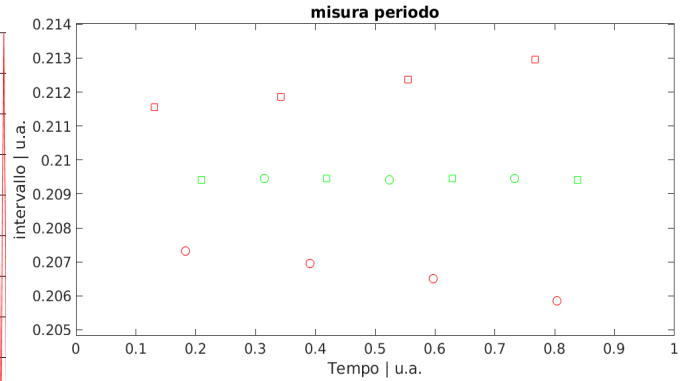




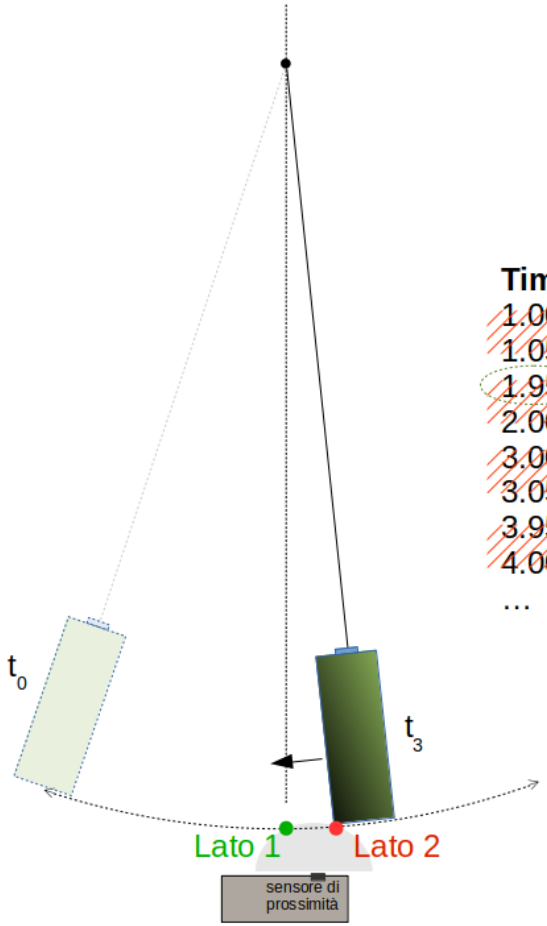




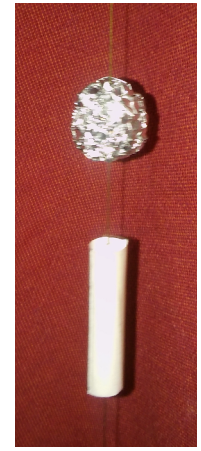


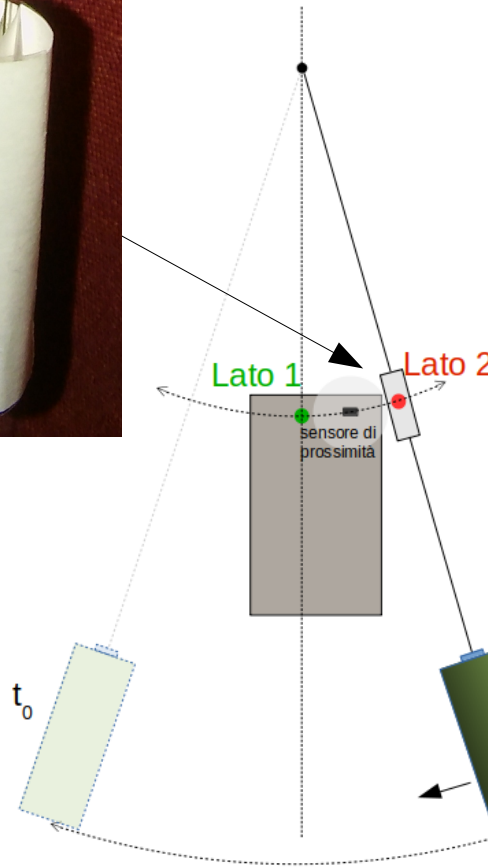


Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione



Time	Distance	
1.00	0	Lato 1
1.05	5	Lato 2
1.95	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.05	5	Lato 2
3.95	0	Lato 2
4.00	5	Lato 1
…	…	

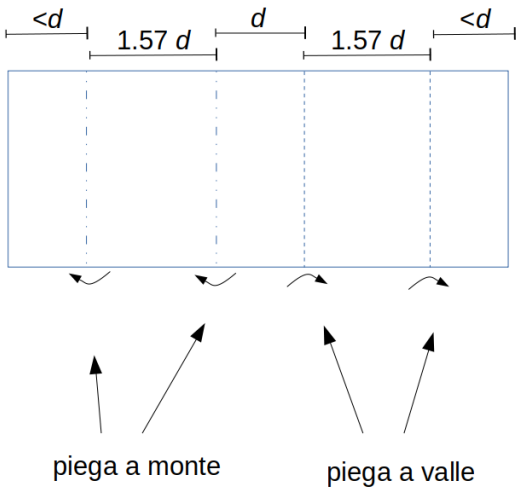




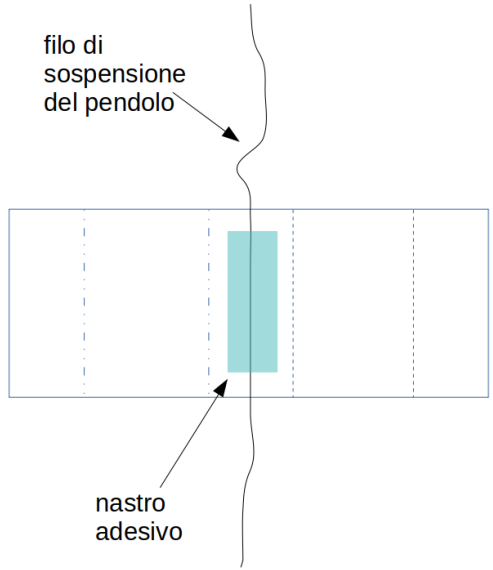
Time	Distance	
1.00	0	Lato 1
1.40	5	Lato 2
1.60	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.40	5	Lato 2
3.60	0	Lato 2
4.00	5	Lato 1
…	…	

Esempio su come costruire il riflettore (*origami* style)

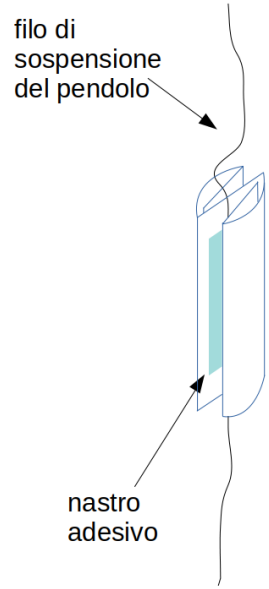
d è il diametro del cilindro che andremo a formare



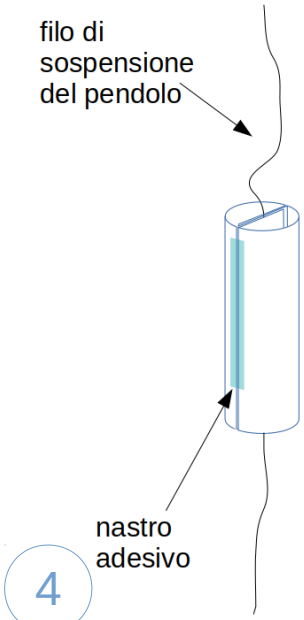
1



2



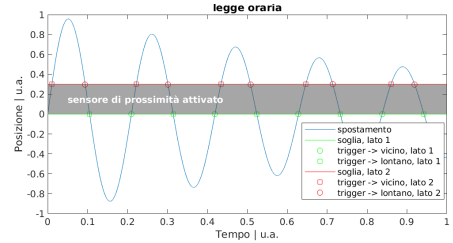
3

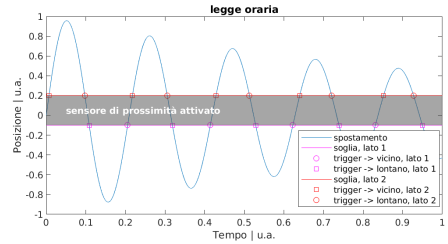


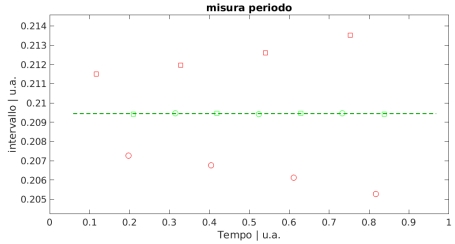
4

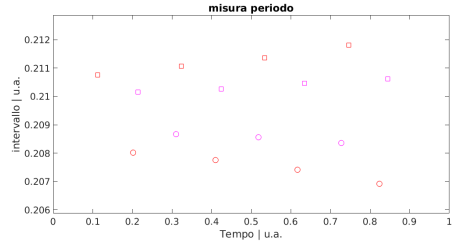
Posizionamento del sensore (4)

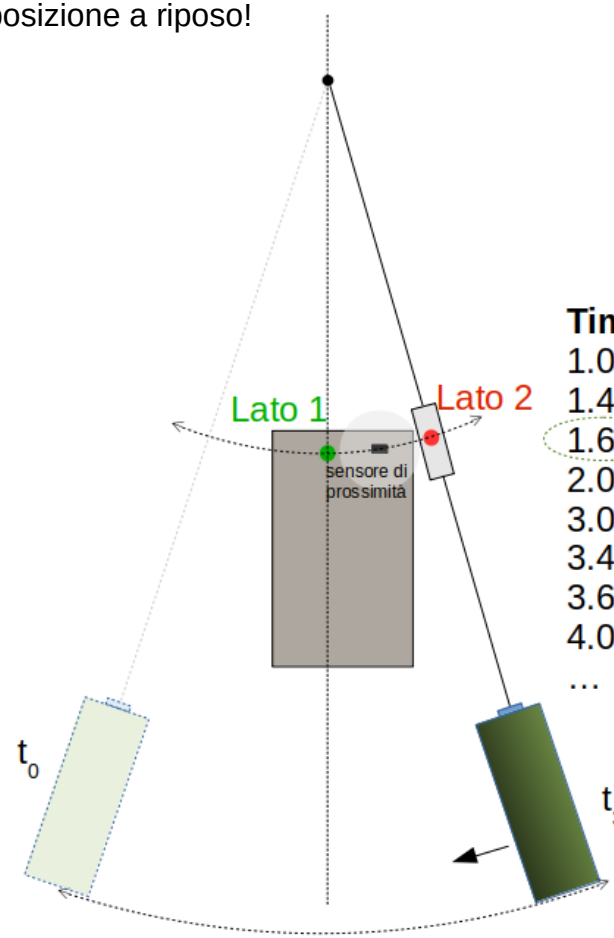
Anche in questo caso: meglio un posizionamento asimmetrico, con una delle due soglie allineata con la posizione a riposo!



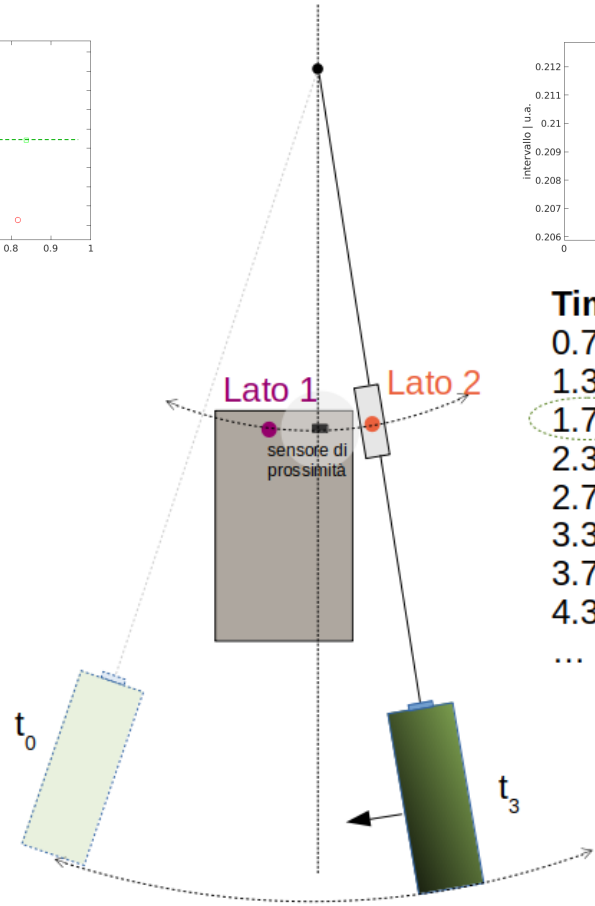






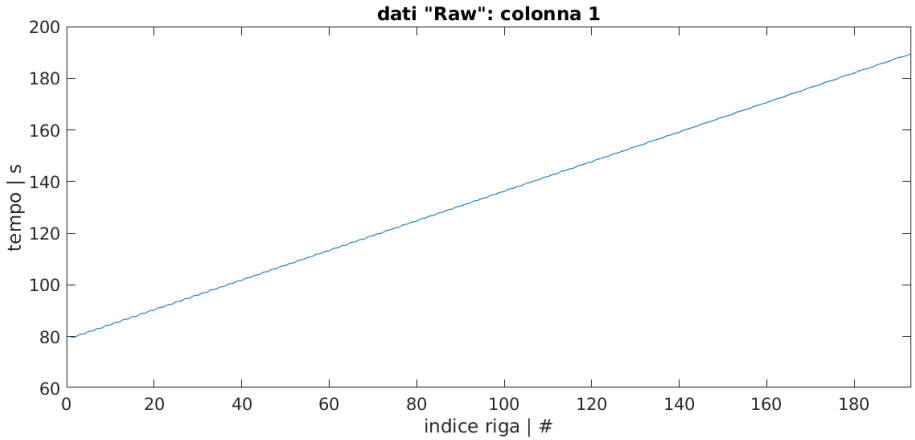


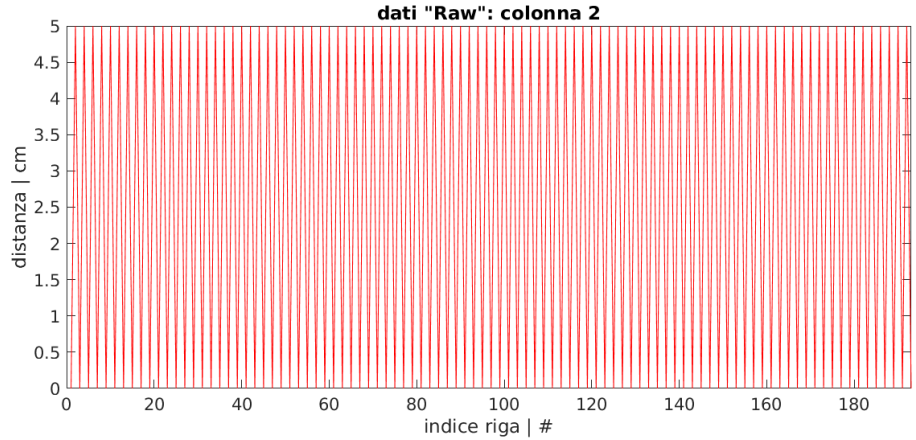
Time	Distance	
1.00	0	Lato 1
1.40	5	Lato 2
1.60	0	Lato 2
2.00	5	Lato 1
3.00	0	Lato 1
3.40	5	Lato 2
3.60	0	Lato 2
4.00	5	Lato 1
…	…	



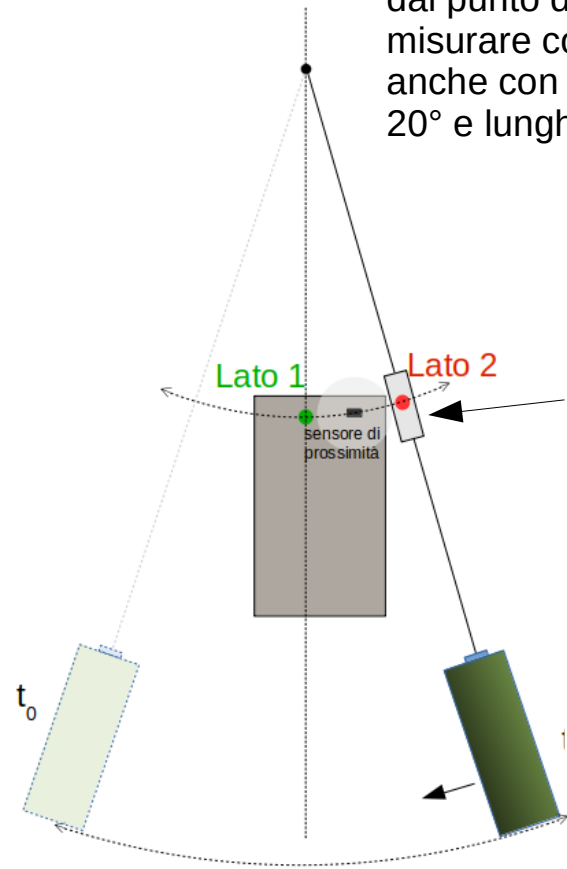
Time	Distance	
0.70	0	Lato 1
1.30	5	Lato 2
1.70	0	Lato 2
2.30	5	Lato 1
2.70	0	Lato 1
3.30	5	Lato 2
3.70	0	Lato 2
4.30	5	Lato 1
…	…	

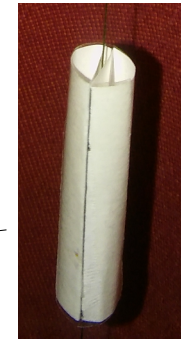
Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione (2)





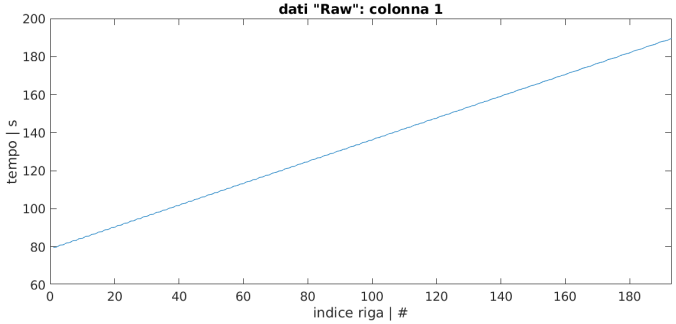
Con questo espediente, posizionando opportunamente il riflettore (~20 cm dal punto di sospensione), si riesce a misurare con efficienza al 100% anche con angolo di partenza di circa 20° e lunghezza circa 130 cm.

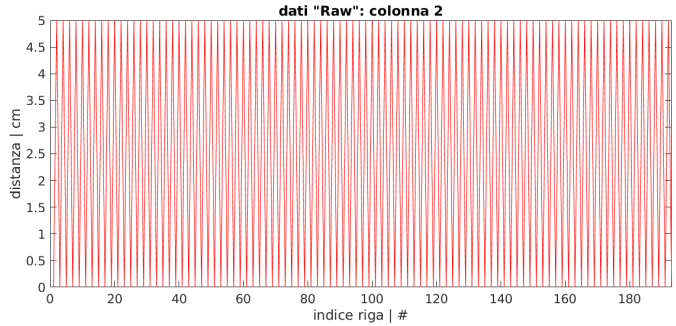


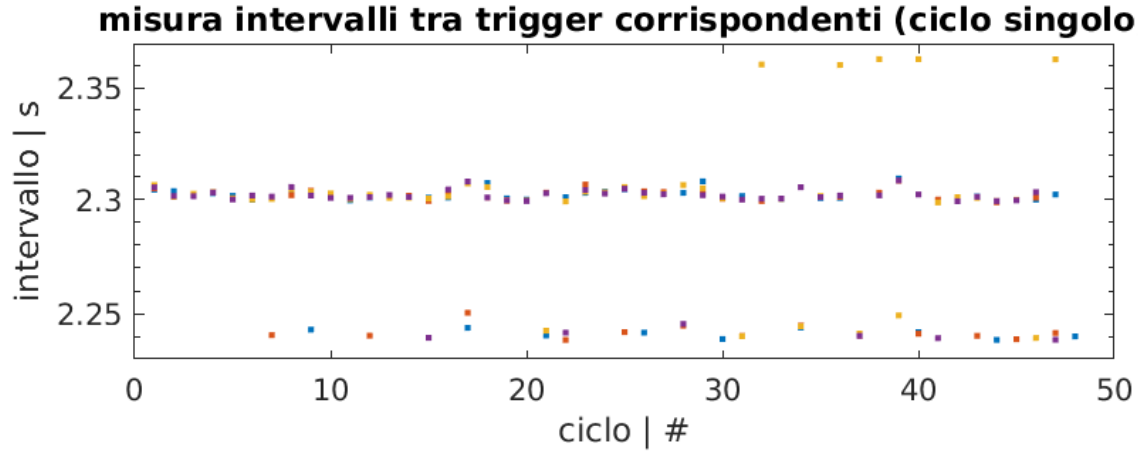


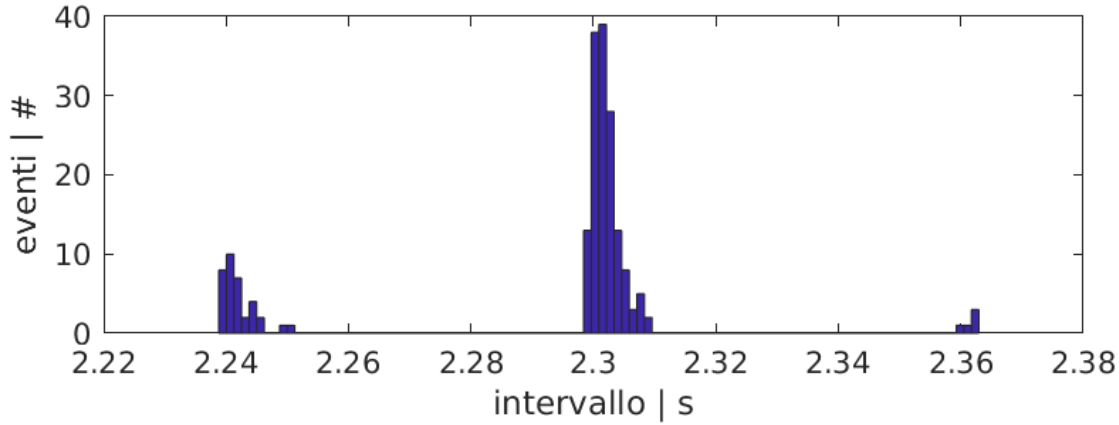
Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione (2)

C'è ancora un problema da risolvere per essere soddisfatti:
la sensibilità del cronometro è bassa...









Questioni legate alla scala dell'esperimento e all'ampiezza dell'oscillazione (2)

Finalmente la misura del periodo ha sensibilità adeguata per apprezzare gli effetti attesi e l'incertezza è confrontabile con quella sulla misura di lunghezza!