cases	doc_1		doc_2		decision	id
	authors	• Qi Su-ying	**authors**	• Wan-Tong Li • Jurang Yan	NOT DUPLICATES	474
	title	Oscillation of First Order Neutral Differential Equations With Positive and Negative Coefficients	**title**	Oscillation of first order neutral differential equations with positive and negative coefficients		
	publication_date	None	**publication_date**	None		
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	urls	• https://www.semanticscholar.org/paper/cdb15214c03ad490f5ef1134bd3503c2b2b90678	**urls**	• https://www.semanticscholar.org/paper/284b891b4fb440b6056600f20aca2331d52d8bbe		
	id	id3447620795642561629	**id**	id2869437965231326637		
	abstract	Sufficient conditions for the oscillation of the neutral equation d/dt[x(t)-R(t)x(t-r)]+ P(t)x(t-T)-Q(t)x(t-Î´) = 0,where P,Q,Râˆˆ{[t_0,âˆž),R~+),r,t,Î´âˆˆ(0,âˆž),are obtained,where R(t) +(?)_(t-T+Î´)~t Q(u)du-1 is allowed to oscillate and(?)_(t_o)~âˆž[P(s) -Q(s-t +Î´)](?)_s~âˆž[P(u) -Q(u-t +Î´)duds =âˆž.	**abstract**	We obtain some new sharp sufficient conditions for the oscillation of all solutions of the first order neutral differential equation with positive and negative coefficients of the form $$\frac{d}{dt}\bigl(x(t) - R(t)x(t - r)\bigr)+ P(t)x(t - \tau) - Q(t)x(t -\delta) = 0$$ where $P,Q,R\in C([t_0,\infty),R^^), r\in (0,\infty)$ and $\tau,\delta\in R^+$. In particular, the conditions are necessary and sufficient when the coefficients are constants. As corollaries, many known results are extended and improved in the literature.		
	versions		**versions**			