

”مزادنی پر دُرّهِ دینا مصیبِ حاضر“
کھانہ ایامِ دعست

$$\text{loop 1: } \text{lr} e^{ier} + \text{AB} e^{i\varphi r} = \text{lf} \cos \varphi / -\text{ih}$$

$$\text{loopr: } 1 + e^{i\theta r} + Ae^{i(\theta r + \alpha)} + Be^{i\theta Cr} = h + ly i \sin \frac{\theta y}{r}$$

مختصر داده های مخصوصیت و خصیات مدل هستند.
 α , h_t , h_i , α^c , $A\beta$, Lw , Lr
 Θ_0 , Θ_R , L_u , L_r معتبر دارند.
 دورد فصله: Θ_4

$$\left\{ \begin{array}{l} l r \cos \theta t + AB \cos \theta^k = L_f \\ l r \sin \theta t + AB \sin \theta^k = -h_1 \\ l r \cos (\theta t + AC \cos (\theta t + \alpha)) + l_a \cos \theta \omega = h_f \\ l r \sin (\theta t + AC \sin (\theta t + \alpha)) + l_a \sin \theta \omega = L_y \end{array} \right.$$

۱۲۰ مسُقُّ سَرِّي از مطالعات loop

loop 1: $\text{tr} \theta^* e^{i\theta^*} + AB \theta^* i e^{i\theta^*} = 1$

$$\text{loop: } 1P \theta^r i e^{i\theta^r} + A \cos \theta^r i e^{i(\theta^r + \alpha)} + L \sin \theta^r i e^{i\theta^r} = I_4 i$$

مطارات (سیل) :

$$L_f \theta^r \cos \theta^r + A B \theta^r \cos \theta^r = 0$$

$$-L_f \theta^r \sin \theta^r - A B \theta^r \sin \theta^r = L_f$$

$$L_f \theta^r \cos \theta^r + A C \theta^r \cos(\theta^r + \alpha) + L_a \theta^r \cos \theta^r \omega \sin \alpha = 0$$

$$-L_f \theta^r \sin \theta^r - A C \theta^r \sin(\theta^r + \alpha) - L_a \theta^r \sin \theta^r \omega = 0$$

مددلات نو و پیش از ماری ← لی، لی، لی

$$\text{loop 1: } l_4 e^{i\theta^r} [i\theta^r - \theta^r] + A B e^{i\theta^r} [i\theta^r - \theta^r] = l_f : \text{ستراحت ریاضی}$$

$$\text{loop 2: } l_4 e^{i\theta^r} [i\theta^r - \theta^r] + A C e^{i(\theta^r + \alpha)} [i\theta^r - \theta^r] + L a e^{i\theta^w} [i\theta^w - \theta^w] = l_f$$

تعریف کنید: $\left\{ \begin{array}{l} l_4 (-\theta^r \sin \theta^r - \theta^r \cos \theta^r) + A B (-\theta^r \sin \theta^r - \theta^r \cos \theta^r) = l_f \\ l_4 (\theta^r \cos \theta^r - \theta^r \sin \theta^r) + A B (\theta^r \cos \theta^r - \theta^r \sin \theta^r) = \\ l_4 (-\theta^r \sin \theta^r - \theta^r \cos \theta^r) + A C (-\theta^r \sin(\theta^r + \alpha) - \theta^r \cos(\theta^r + \alpha)) = \\ L a (-\theta^w \sin \theta^w - \theta^w \cos \theta^w) = \\ l_4 (\theta^r \cos \theta^r - \theta^r \sin \theta^r + A C (\theta^r \cos(\theta^r + \alpha) - \theta^r \sin(\theta^r + \alpha))) \\ + L a (\theta^w \cos \theta^w - \theta^w \sin \theta^w) = l_f \end{array} \right.$

سپس $\theta^r \leftarrow$

مقدار $\theta^r, \theta^w, l_f, l_4$:

$l_4, l_f, l_4 - l_f, l_4, l_f$ مقدار ۱۲ صورت دارد، استخراج
 $\theta^r, \theta^w, \theta^r + \theta^w, \theta^r, \theta^w, \theta^r$



$$l_4 = 50 \text{ mm}$$

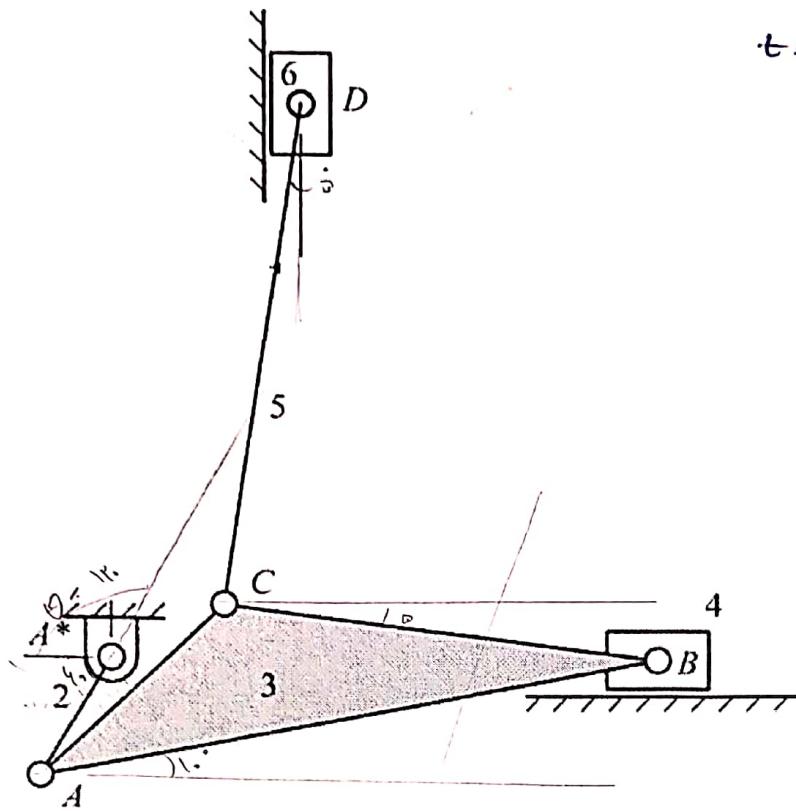
$$\alpha = 45^\circ$$

$$h_1 = 2 \text{ mm}$$

$$h_2 = 0.1 \text{ mm}$$

$$X = \{ \theta^r, \theta^w, l_f, l_4, \theta^r + \theta^w, l_f, l_4, \theta^r, \theta^w, l_f, l_4 \}$$

عکس دیالکتریک سمعت و سایر:



مکانیزم هشتم

$$v_A = v_B + v_{A/B}$$

$$v_A = \omega r \times r = \omega \times 10 = 1000 \text{ [mm/s]} \rightarrow 1 \text{ [m/s]}$$

محاصله سرعتها است

$$\omega^r = v_B / A_{AB} =$$

$$(در دایره) \quad v_B / A = \omega r \text{ cm} \xrightarrow{\text{دور}} 0,05 \text{ [m/s]}$$

$$\omega^r = \theta / \alpha / \theta / \omega = r^r \text{ rad/s} \xrightarrow{\text{دور}} 1 \text{ rad/s}$$

$$v_B = v_C + v_{B/C}$$

تعقیل با شتاب به سمت راست

$$\text{تعقیل CB} = \alpha V \text{ cm} \rightarrow \omega r \times \frac{r}{\pi r} = 119 \text{ cm}$$

$$AC = 119 \text{ cm} \rightarrow \omega r \times \frac{r}{\pi r} = 119 \text{ cm}$$

$$AB = 119 \text{ cm} \xrightarrow{\text{تعقیل}} 119 \text{ cm}$$

$$\omega \times \frac{r}{\pi r}$$

$$(از زواید) \quad v_B = 119 \text{ cm} \xrightarrow{\text{تعقیل}} 119 \text{ m/s} \xrightarrow{\text{تعقیل}} 119 \text{ m/s} \text{ [m/s]}$$

$$(از زواید) \quad v_C/D = 119 \text{ cm} \xrightarrow{\text{تعقیل}} 119 \text{ m/s}$$

$$v_C = v_D + v_{C/D}$$

اگر دیواری داشت $v_D = r_{1,4} \text{ cm} \xrightarrow{\div \omega} \text{or } f_1 [m/s] \xrightarrow{\times \omega} r_{1,4} [m/s]$

ایرانی ستاب که نظرم

سیاست ستاب $\times \omega$ است

$$\alpha A = \alpha B + \alpha A/B$$

$$\Rightarrow \alpha A^n + \alpha A^t = \alpha B + \alpha B^n + \alpha A/B^n + \alpha A/B^t$$

$$\alpha A^n = \frac{v_A}{r} = \frac{1 \times 1}{\omega \cdot r} = r_0 [m/s^r] \xrightarrow{\times \omega} 1.0 [m/s]$$

$$\alpha A^t = \alpha r = 0 \quad (\alpha r = 0)$$

$$\alpha A/B^n = \frac{v_{A/B}}{AB} = \frac{\omega \cdot \omega \times \omega \cdot \omega}{\omega \cdot \omega \cdot \omega} = r_1 [m/s^r]$$

$$\alpha A/B^t \rightarrow \text{دیگر}$$

$$\alpha A/B^t = 1.4 \text{ cm} \rightarrow \alpha r = \frac{1.4 \times 1}{\omega \cdot r} = 4 \text{ rad/s}^r \xrightarrow{\text{قدس}} 4 \text{ rad/s}^r$$

اگر دیواری داشت $\alpha B = \omega N \text{ cm} \xrightarrow{\times r} 11.1 \text{ cm} \xrightarrow{\times \omega} 11.1 [m/s^r]$

ایرانی ستاب \rightarrow این از این دیوار \rightarrow دیواری داشت \rightarrow $AB = 1/V \text{ cm}$
 بودست کنم \rightarrow مثل $AB = 1/V \text{ cm}$

$$\text{مکان} \rightarrow \frac{x \cdot 1/V}{r_1}$$

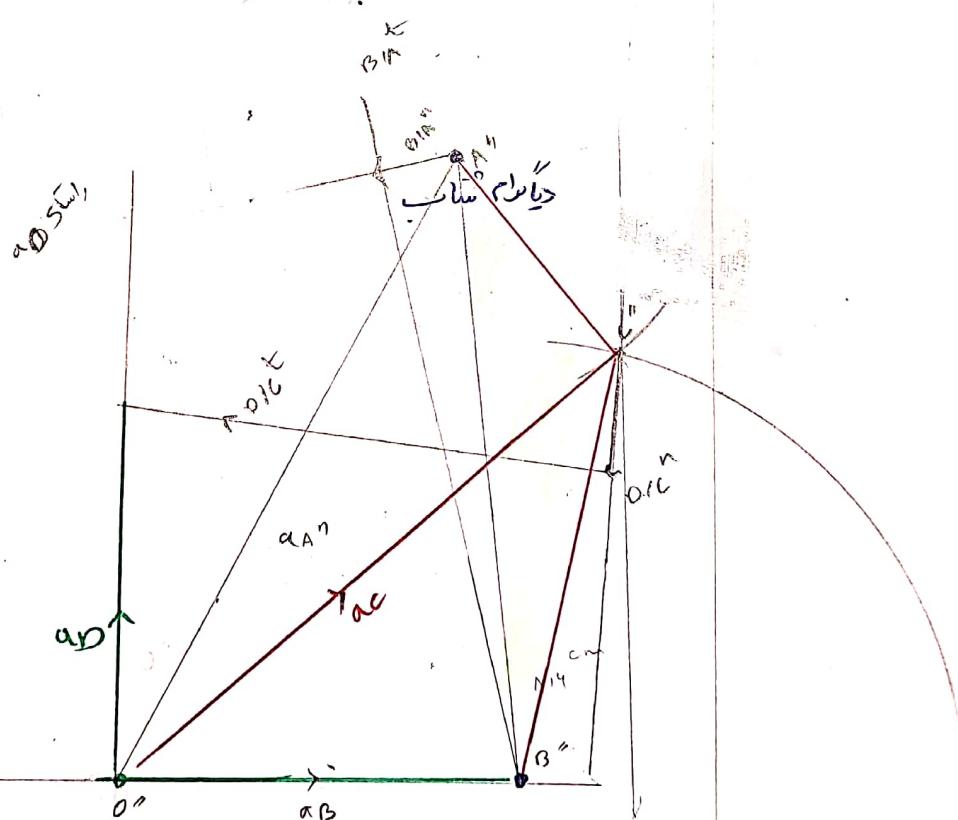
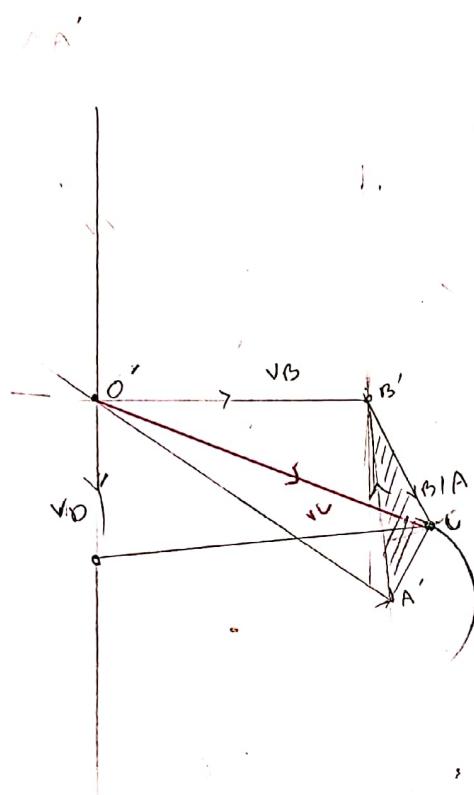
$$\left\{ \begin{array}{l} \text{مکان BC} = \omega \cdot V \times \frac{1/V}{r_1} = 9.1 F [cm] \\ \text{مکان AC} = 9.1 \times \frac{1/V}{r_1} = 9.1 \text{ cm} \end{array} \right.$$

$$\left\{ \begin{array}{l} \text{مکان BC} = \omega \cdot V \times \frac{1/V}{r_1} = 9.1 F [cm] \\ \text{مکان AC} = 9.1 \times \frac{1/V}{r_1} = 9.1 \text{ cm} \end{array} \right.$$

$$\left\{ \begin{array}{l} \text{مکان} = \alpha D + \alpha C/D \\ \alpha D^n = \alpha D^t \end{array} \right. \left\{ \begin{array}{l} \alpha C/D \rightarrow \frac{v_{C/D}}{\omega} = \frac{\omega \cdot r \times \omega \cdot r}{\omega} = \omega^2 r \\ \alpha C/D^t \rightarrow \text{دیگر} \end{array} \right. \xrightarrow{\times \omega} 1.149 [m/s^r]$$

اگر دیواری داشت $\alpha D = \omega \cdot V \text{ cm} \xrightarrow{\times r} 10/V [m/s^r] \xrightarrow{\times \omega} 9.14 [m/s^r]$

دیگر مسیر



تحلیل لست:

در استاد که می‌سینی برای اندیشه‌ها و مفهوم‌ها و زاری طای تاب داشت ۲ هر یکی نیم. سپس آنرا ۱، او لی را هر چندی نیم ۱۲-۱۶- رسمی سپس لحظه‌ی نهای را ۱۷ هر چندی نیم که نهای تابع برای حل امساکه، ۱۸ هر چندی را به دست آورد است، هر چندی نیم دنام آن را double crack و ندارم.

در ادامه نویں main که این تابع را به شکل مداوم مراحتواری کرد در داخل بیان for، سپس معادلات را با اینها در f solve برای دهنده خاص حل کرد و جوابها را داخل که مفہیم ۱۹ اسکن به نام

answer ذخیره کرد.

مختصات به دست آمده

سرعت لغزیده ۶	سقلم ۸
سما بهزیده ۶	سقلم ۱۰
سرعت لغزیده ۴	سقلم ۷
سما بهزیده ۴	سقلم ۱۱
امک ۳	سقلم ۱۵
آرما ۲	سقلم ۹
امک ۵	۶
آرما ۵	۱۰

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1
2
3 clc
4
5 % Parameters (mm, rad)
6 h1=0;
7 h2=50;
8 l2=50;
9 l5=250;
10 alfa=30*pi/180;
11 AB=250;
12 AC=100;
13 W_2=20;
14 acc_2=0;
15 theta_2_0=-16.64014122*pi/180;
16 Ending_time=1;
17 step=0.001;
18 Ro=150;
19 theta_Ro=pi/12;
20 %
21 X_0=[0,2,297.5,276.9,-3.92,1.86,275.47,490,-17.76,-82.63,-23047,8239];
22 II=Ending_time/step;
23 for i=0:II
24 time(i+1)=i*step;
25 theta_2(i+1)=0.5*acc_2*time(i+1)^2+W_2*time(i+1)+theta_2_0;
26 theta_2_dot(i+1)=acc_2*time(i+1)+W_2;
27 theta_2_wdot(i+1)=acc_2;
28 ans1=fsolve(@DoubleCrank,X_0,[],theta_2(i+1),theta_2_dot(i+1),theta_2_wdot(i+1),alfa,l2,l5,AB,AC,h1,h2)
29 answer(i+1,:)=ans1;
30 X_0=ans1;
31 % vel and acc
32 % Link 2
33 V_G_2(:,i+1)=l2/2*theta_2_dot(i+1)*[-sin(theta_2(i+1))]

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%_U_41,1+1,-1-(12/2*theta_2_wdot(i+1))*sin(theta_2(i+1))-12/2*theta_2_wdot(i+1)*cos(theta_2(i+1));
(12/2*theta_2_wdot(i+1))*cos(theta_2(i+1))-(12/2*theta_2_dot(i+1)^2)*sin(theta_2(i+1))];
V_A(:,i+1)=l2*theta_2_dot(i+1)*[-sin(theta_2(i+1))
cos(theta_2(i+1))];
A_A(:,i+1)=[-(12*theta_2_wdot(i+1))*sin(theta_2(i+1))-(12*theta_2_dot(i+1)^2)*cos(theta_2(i+1))
(12*theta_2_wdot(i+1))*cos(theta_2(i+1))-(12*theta_2_dot(i+1)^2)*sin(theta_2(i+1))];

% Link3
V_G_3(:,i+1)=V_A(:,i+1)+Ro*ans1(5)*[-sin(ans1(1)+theta_Ro);cos(ans1(1)+theta_Ro)];
A_G_3(:,i+1)=A_A(:,i+1)+[-Ro*ans1(9)*sin(ans1(1)+theta_Ro)-Ro*ans1(5)^2*cos(ans1(1)+theta_Ro);Ro*ans1(9)*cos(ans1(1)+theta_Ro)-Ro*ans1(5)^2*sin(ans1(1)+theta_Ro)];
V_B(:,i+1)=V_A(:,i+1)+AB*ans1(5)*[-sin(ans1(1));cos(ans1(1))];
A_B(:,i+1)=A_A(:,i+1)+[-AB*ans1(9)*sin(ans1(1))-AB*ans1(5)^2*cos(ans1(1));AB*ans1(9)*cos(ans1(1))-AB*ans1(5)^2*sin(ans1(1))];
V_C(:,i+1)=V_A(:,i+1)+AC*ans1(5)*[-sin(ans1(1)+alfa);cos(ans1(1)+alfa)];
A_C(:,i+1)=A_A(:,i+1)+[-AC*ans1(9)*sin(ans1(1)+alfa)-AC*ans1(5)^2*cos(ans1(1)+alfa);AC*ans1(9)*cos(ans1(1)+alfa)-AC*ans1(5)^2*sin(ans1(1)+alfa)];
% Link5
V_G_5(:,i+1)=V_C(:,i+1)+15/2*ans1(6)*[-sin(ans1(2));cos(ans1(2))];
A_G_5(:,i+1)=A_C(:,i+1)+[-15/2*ans1(10)*sin(ans1(2))-15/2*ans1(6)^2*cos(ans1(2));15/2*ans1(10)*cos(ans1(2))-15/2*ans1(6)^2*sin(ans1(2))];

end
% % Plots
% %link6
% plot(time,answer(:,8));
% xlabel('t(s)')
% ylabel('V_6(mm/s)')
% title('V_6 - time')
% figure
% plot(time,answer(:,12));
% xlabel('t(s)')
% ylabel('A_6(mm/s^2)')
% title('A_6 - time')
% %link4
% figure
% plot(time,answer(:,7));

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```
%
% title('V_4 - time')
% figure
% plot(time,answer(:,11));
% xlabel('t(s)')
% ylabel('A_4(mm/s^2)')
% title('A_4 - time')
% %link5
% figure
% plot(time,(V_G_5(1,:).^2+V_G_5(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('V_5(mm/s)')
% title('absolute value of V_5 - time')
% figure
% plot(time,(A_G_5(1,:).^2+A_G_5(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('A_5(mm/s^2)')
% title('absolute value of A_5 - time')
% %link3
% figure
% plot(time,(V_G_3(1,:).^2+V_G_3(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('V_3(mm/s)')
% title('absolute value of V_3 - time')
% figure
% plot(time,(A_G_3(1,:).^2+A_G_3(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('A_3(mm/s^2)')
% title('absolute value of A_3 - time')
% %Link2
% figure
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```
% xlabel('t(s)')
% ylabel('V_2(mm/s)')
% title('absolute value of V_2 - time')
% figure
% plot(time,(A_G_2(1,:).^2+A_G_2(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('A_2(mm/s^2)')
% title('absolute value of A_2 - time')
% %joint A
% figure
% plot(time,(V_A(1,:).^2+V_A(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('V_A(mm/s)')
% title('absolute value of V_A - time')
% figure
% plot(time,(A_A(1,:).^2+A_A(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('A_A(mm/s^2)')
% title('absolute value of A_A - time')
% %joint B
% figure
% plot(time,(V_B(1,:).^2+V_B(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('V_B(mm/s)')
% title('absolute value of V_B - time')
% figure
% plot(time,(A_B(1,:).^2+A_B(2,:).^2).^0.5);
% xlabel('t(s)')
% ylabel('A_B(mm/s^2)')
% title('absolute value of A_B - time')
% %joint C
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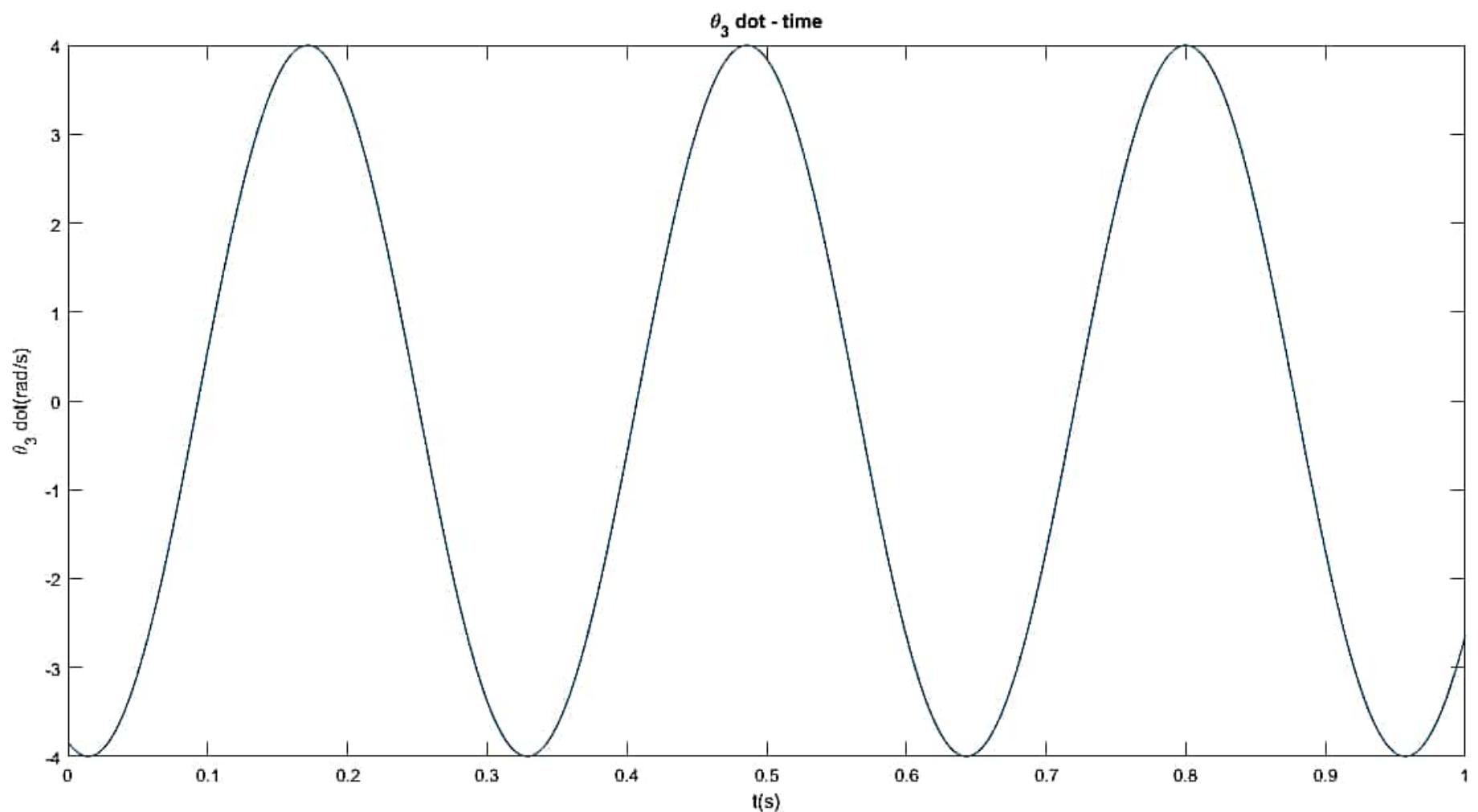
% plot(time,(v_C(1,:).^2+v_C(2,:).^2).^.5);
% xlabel('t(s)')
% ylabel('V_C(mm/s)')
% title('absolute value of V_C - time')
% figure
% plot(time,(A_C(1,:).^2+A_C(2,:).^2).^.5);
% xlabel('t(s)')
% ylabel('A_C(mm/s^2)')
% title('absolute value of A_C - time')
% %theta_3
% plot(time,answer(:,5));
% xlabel('t(s)')
% ylabel('\theta_3 dot(rad/s)')
% title ('\theta_3| dot - time')
% figure
% plot(time,answer(:,9));
% xlabel('t(s)')
% ylabel ('\theta_3 wdot(rad/s^2)')
% title ('\theta_3 wdot - time')
% %theta5
% figure
% plot(time,answer(:,6));
% xlabel('t(s)')
% ylabel ('\theta_5 dot(rad/s)')
% title ('\theta_5 dot - time')
% figure
% plot(time,answer(:,10));
% xlabel('t(s)')
% ylabel ('\theta_5 wdot(rad/s^2)')
% title ('\theta_5 wdot - time')

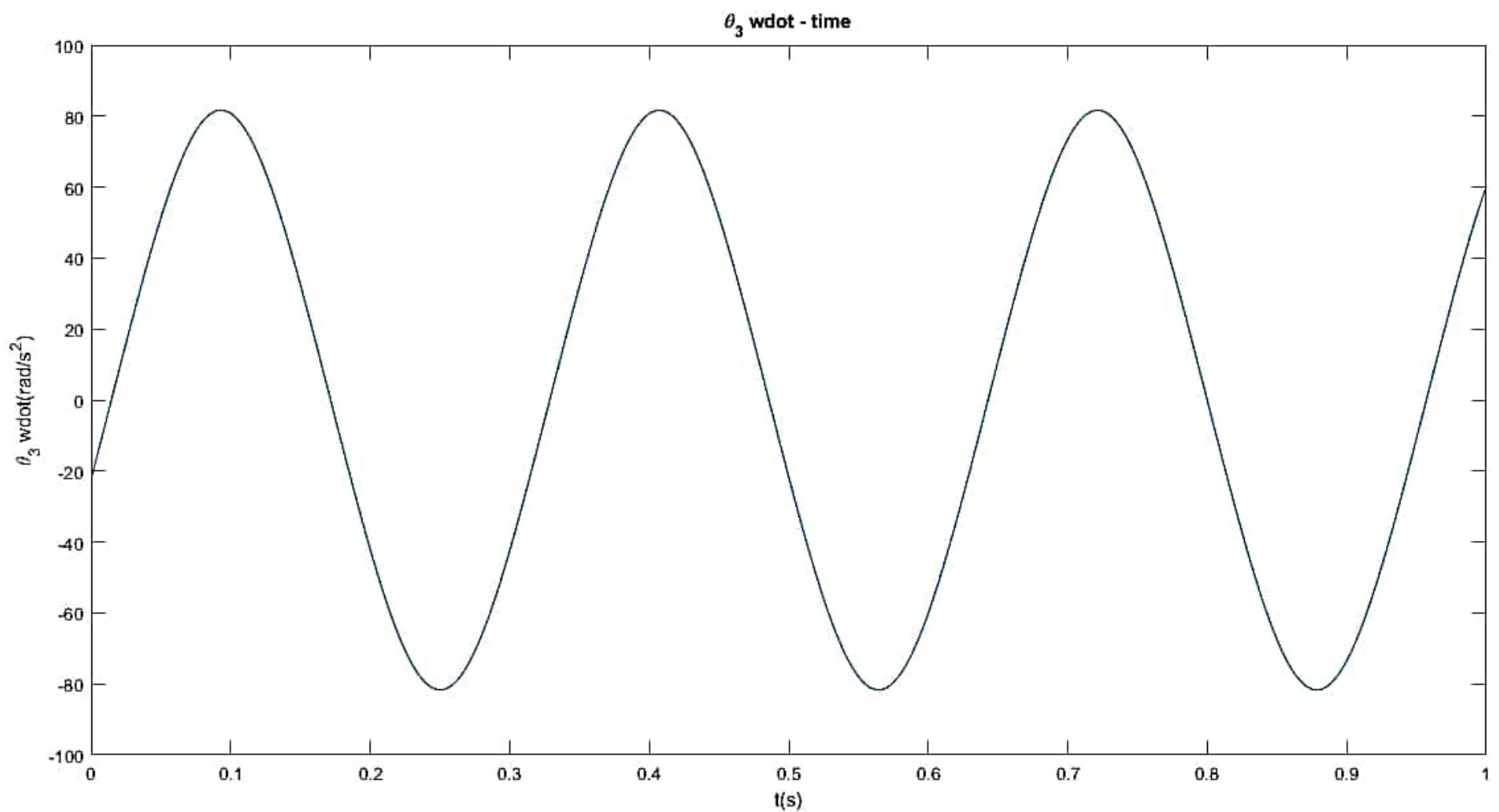
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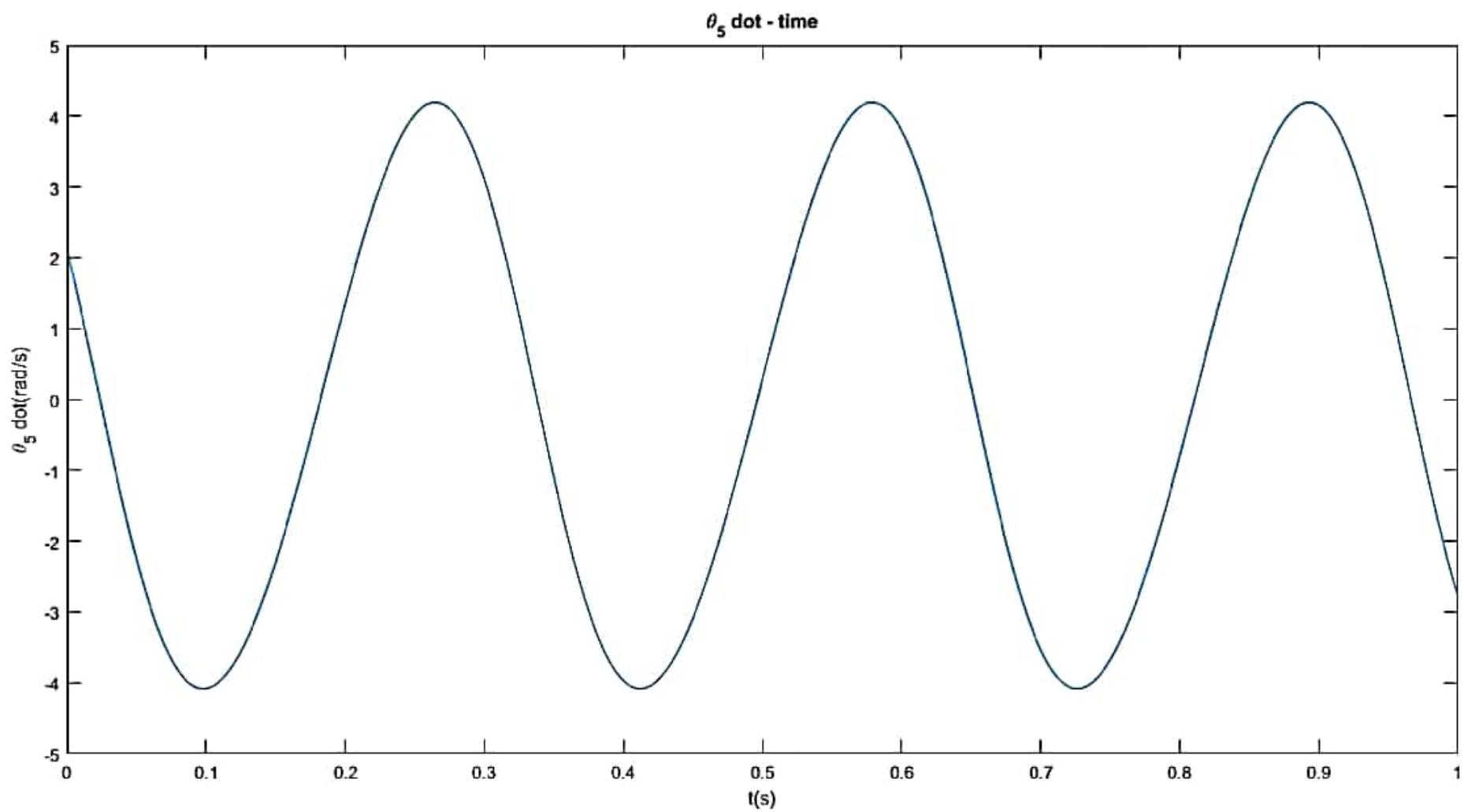
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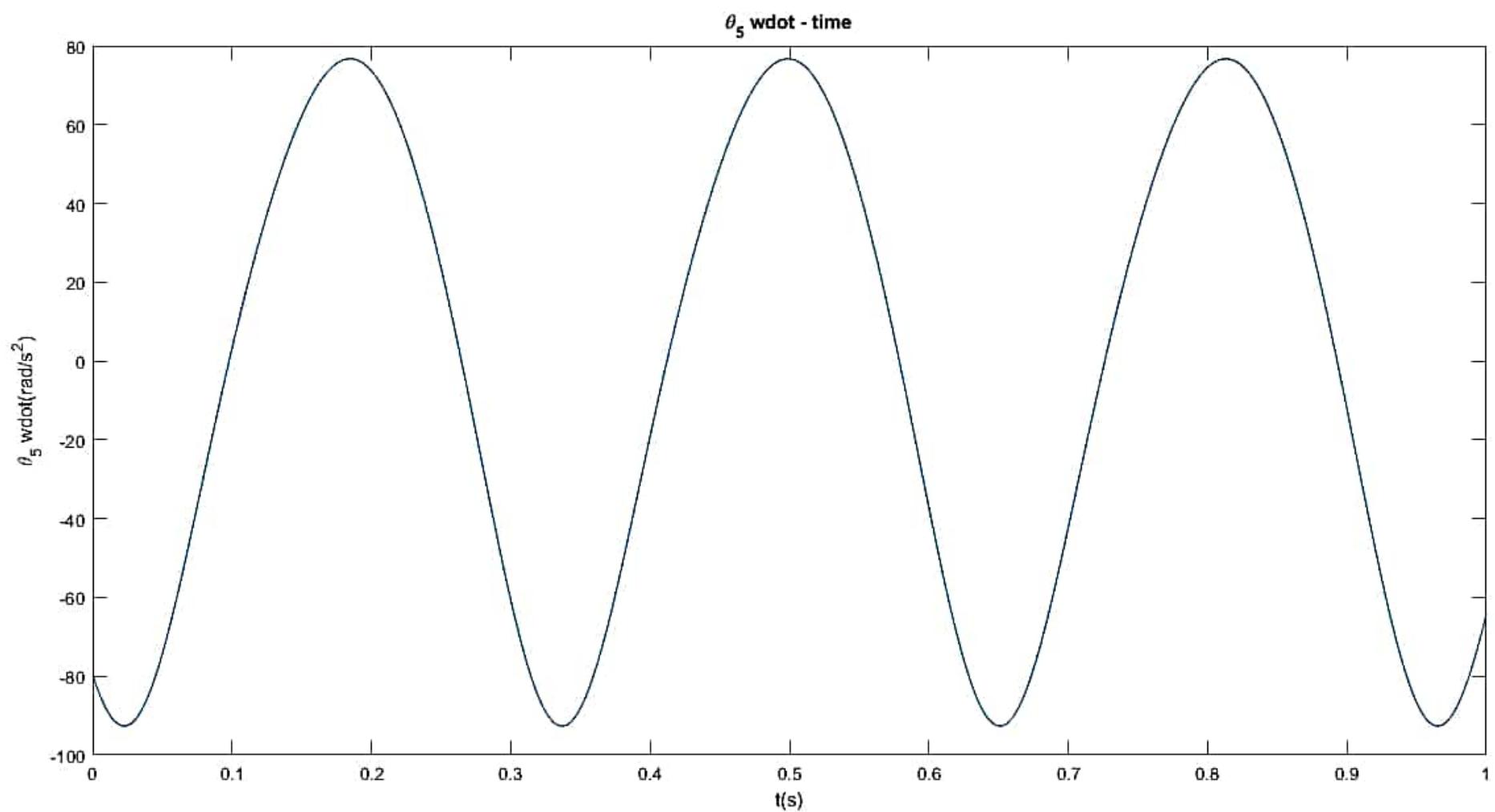
1 function F = DoubleCrank(X,theta_2,theta_2_dot,theta_2_wdot,alfa,l2,l5,AB,AC,h1,h2)
2 %
3 F(1)=l2*cos(theta_2)+AB*cos(X(1))-X(3);
4 F(2)=l2*sin(theta_2)+AB*sin(X(1))+h1;
5 F(3)=l2*cos(theta_2)+AC*cos(X(1)+alfa)+l5*cos(X(2))-h2;
6 F(4)=l2*sin(theta_2)+AC*sin(X(1)+alfa)+l5*sin(X(2))-X(4);
7 %
8 F(5)=l2*theta_2_dot*cos(theta_2)+AB*X(5)*cos(X(1));
9 F(6)=-l2*theta_2_dot*sin(theta_2)-AB*X(5)*sin(X(1))-X(7);
10 F(7)=l2*theta_2_dot*cos(theta_2)+AC*X(5)*cos(X(1)+alfa)+l5*X(6)*cos(X(2))-X(8);
11 F(8)=-l2*theta_2_dot*sin(theta_2)-AC*X(5)*sin(X(1)+alfa)-l5*X(6)*sin(X(2));
12 %
13 F(9)=l2*(-theta_2_wdot*sin(theta_2)-theta_2_dot^2*cos(theta_2))+AB*(-X(9)*sin(X(1))-X(5)^2*cos(X(1)))-X(11);
14 F(10)=l2*(theta_2_wdot*cos(theta_2)-theta_2_dot^2*sin(theta_2))+AB*(X(9)*cos(X(1))-X(5)^2*sin(X(1)));
15 F(11)=l2*(-theta_2_wdot*sin(theta_2)-theta_2_dot^2*cos(theta_2))+AC*(-X(9)*sin(X(1)+alfa)-X(5)^2*cos(X(1)+alfa))+l5*(-X(10)*sin(X(2))-X(6)^2*cos(X(2)));
16 F(12)=l2*(theta_2_wdot*cos(theta_2)-theta_2_dot^2*sin(theta_2))+AC*(X(9)*cos(X(1)+alfa)-X(5)^2*sin(X(1)+alfa))+l5*(X(10)*cos(X(2))-X(6)^2*sin(X(2)))-X(12);
17 end
18
19

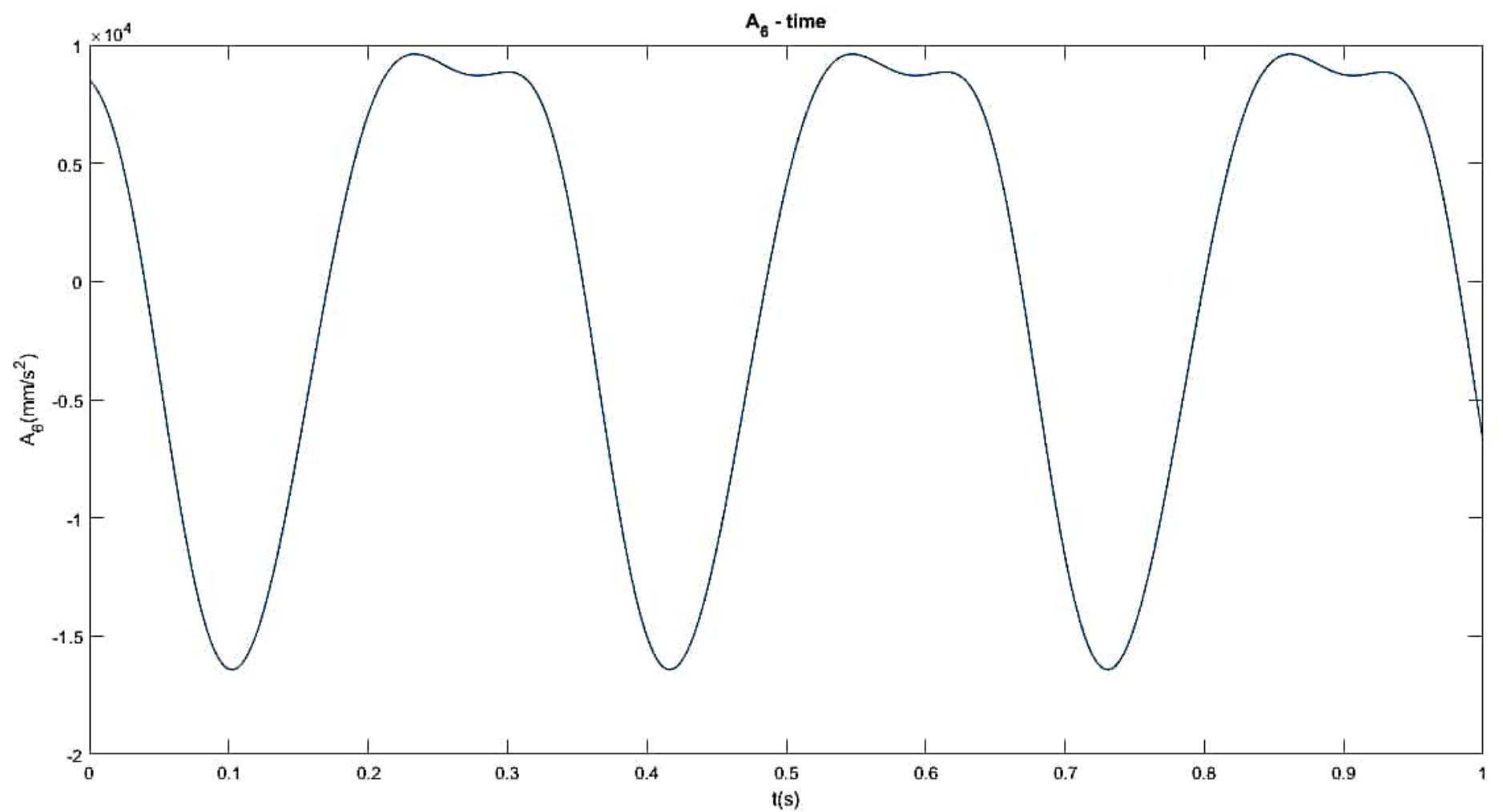
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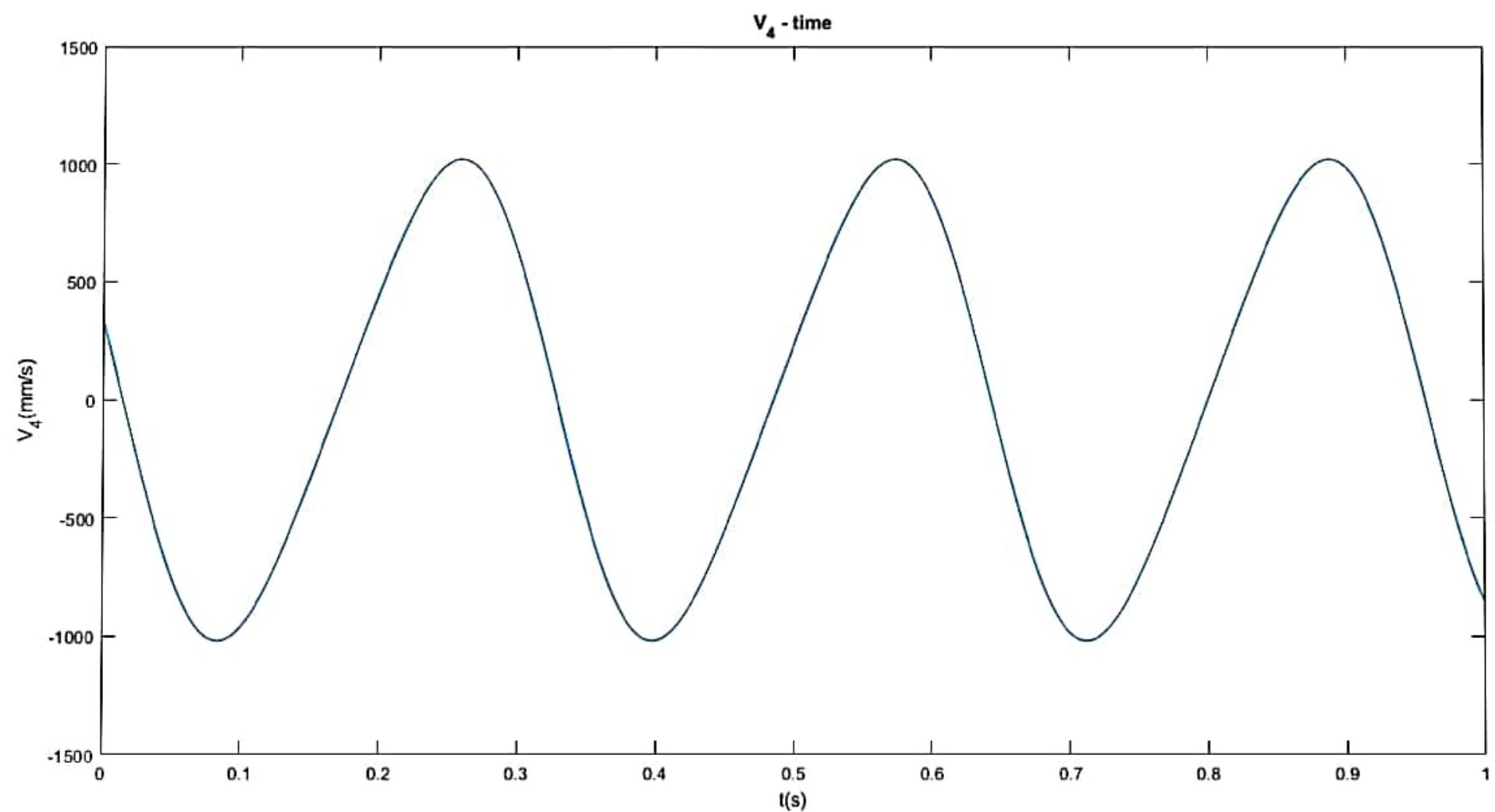


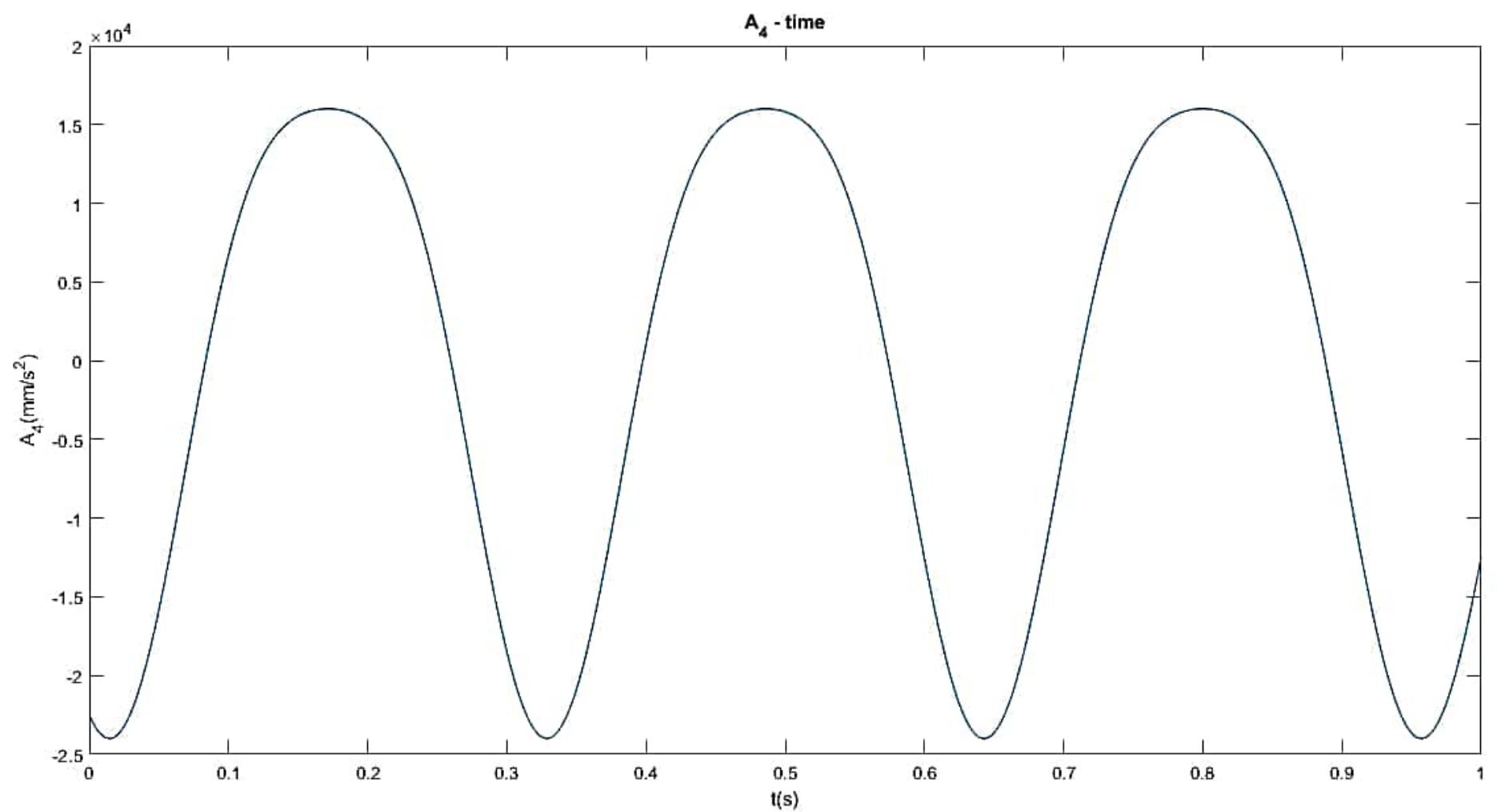


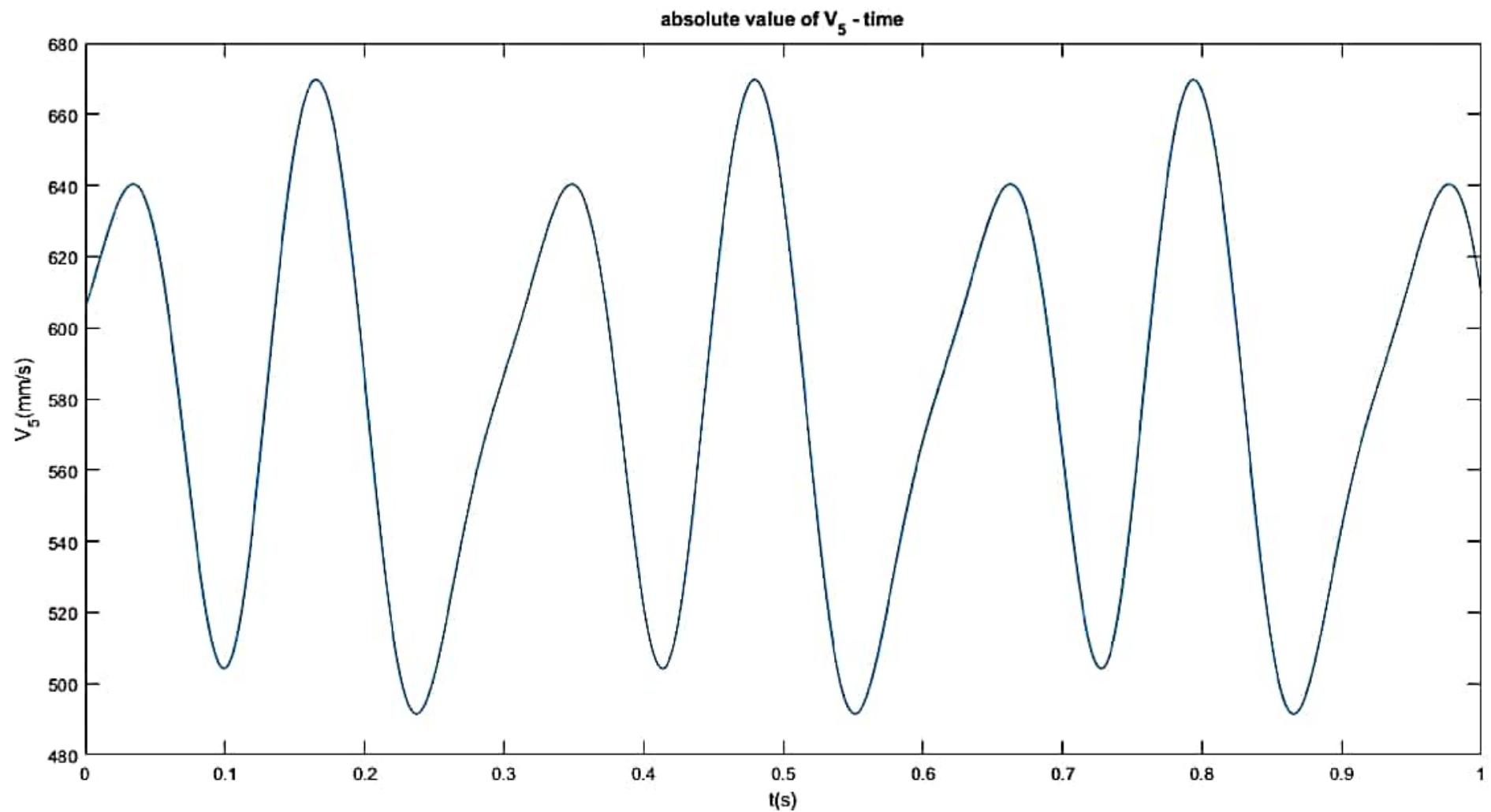


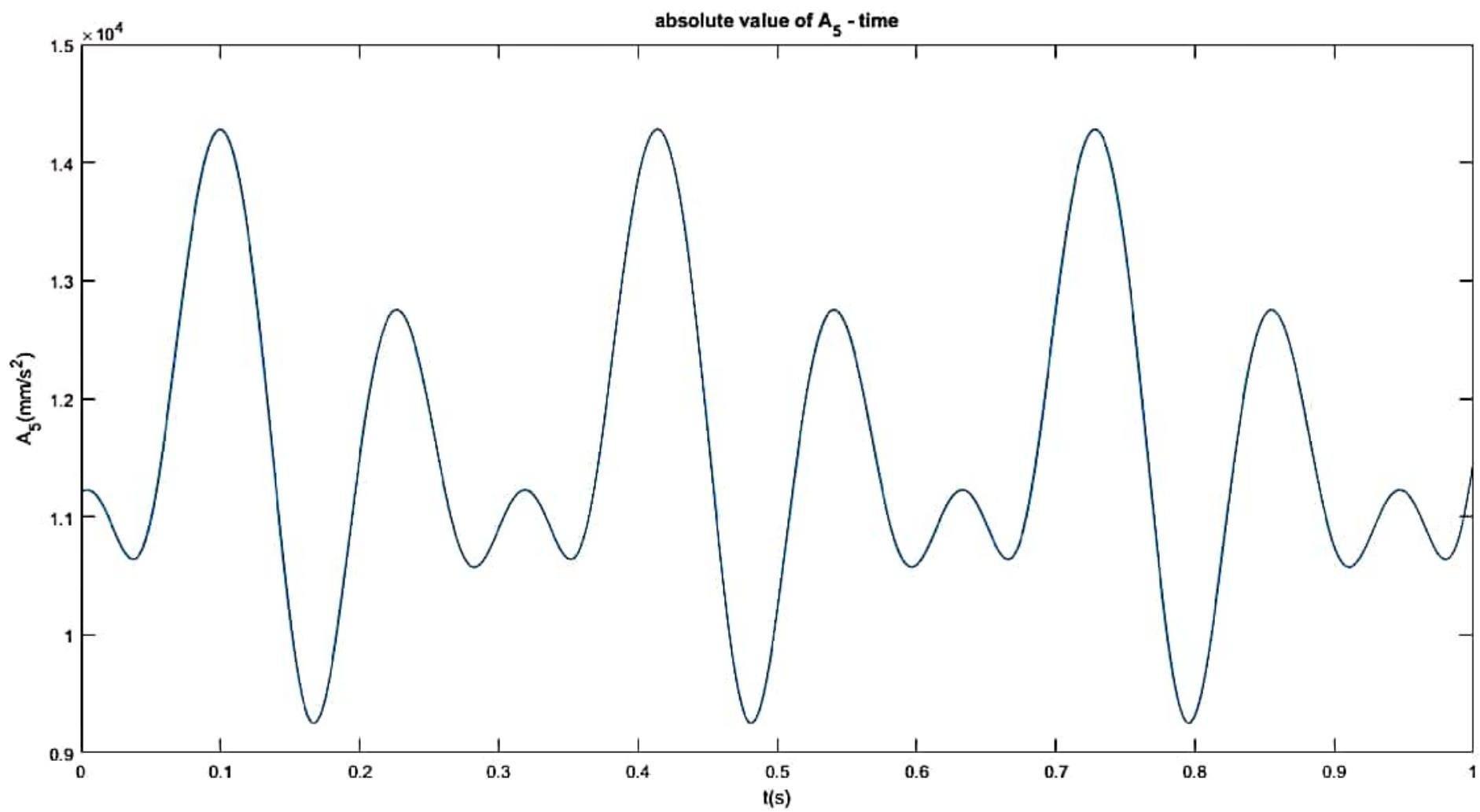


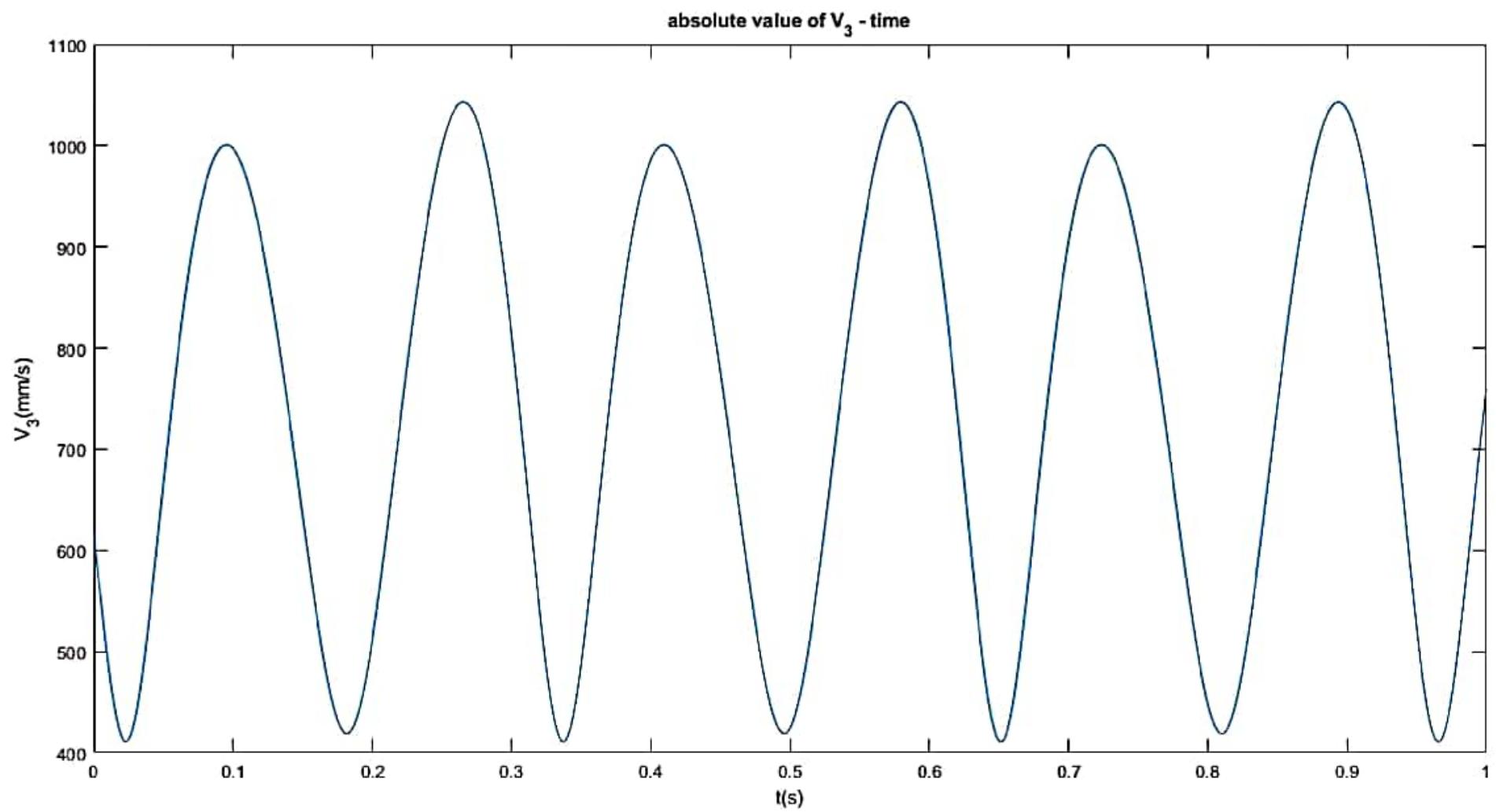


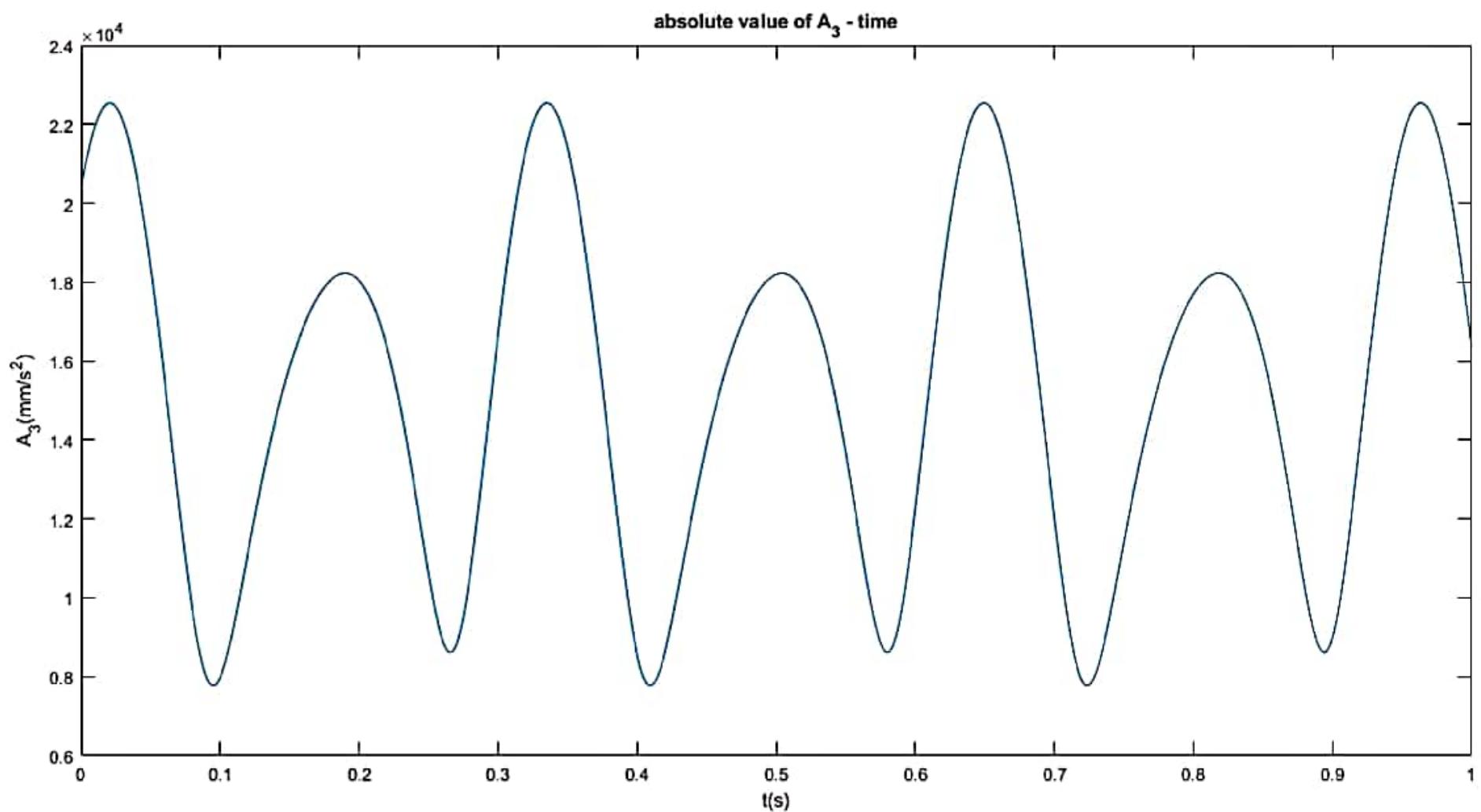


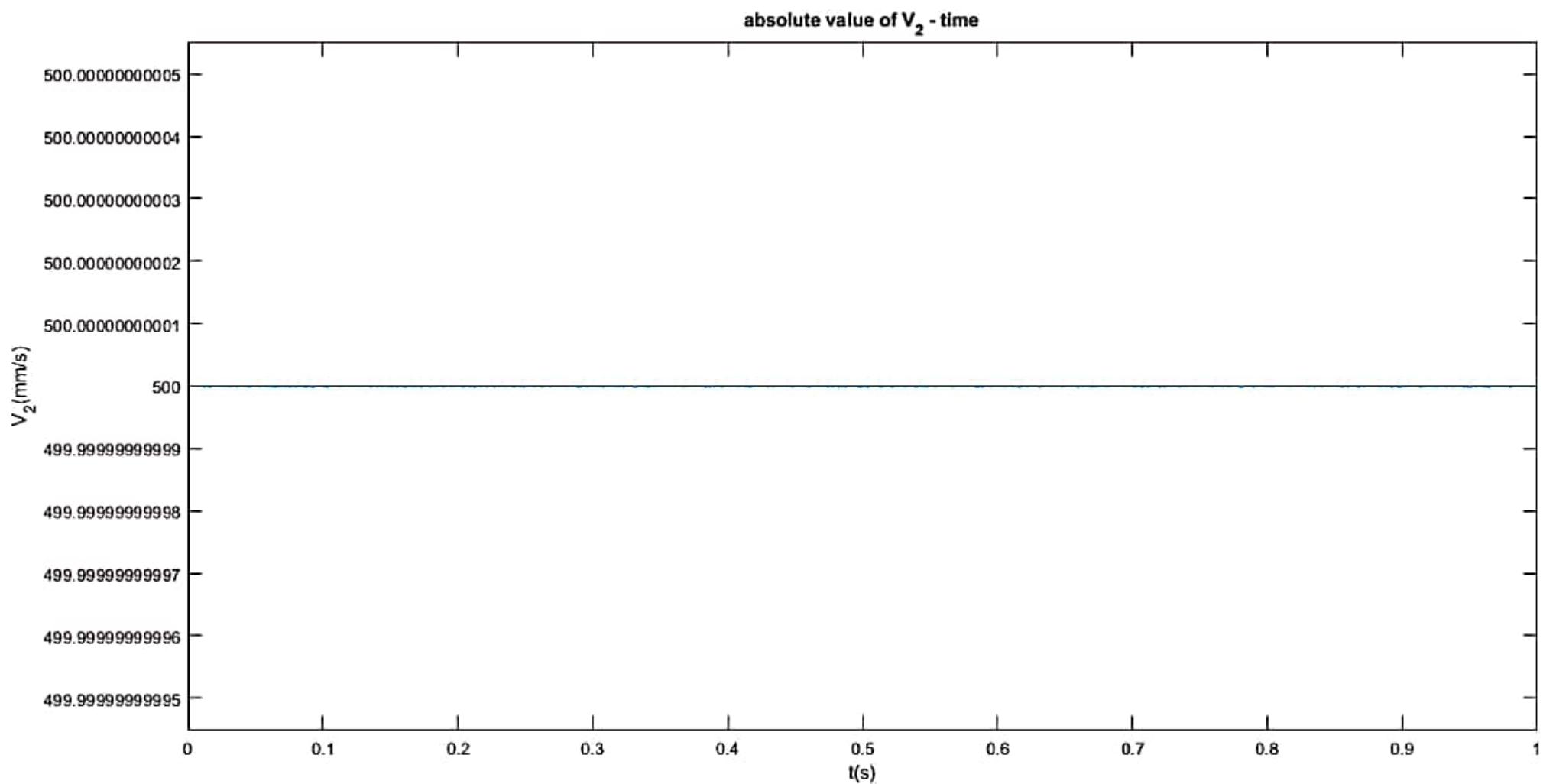


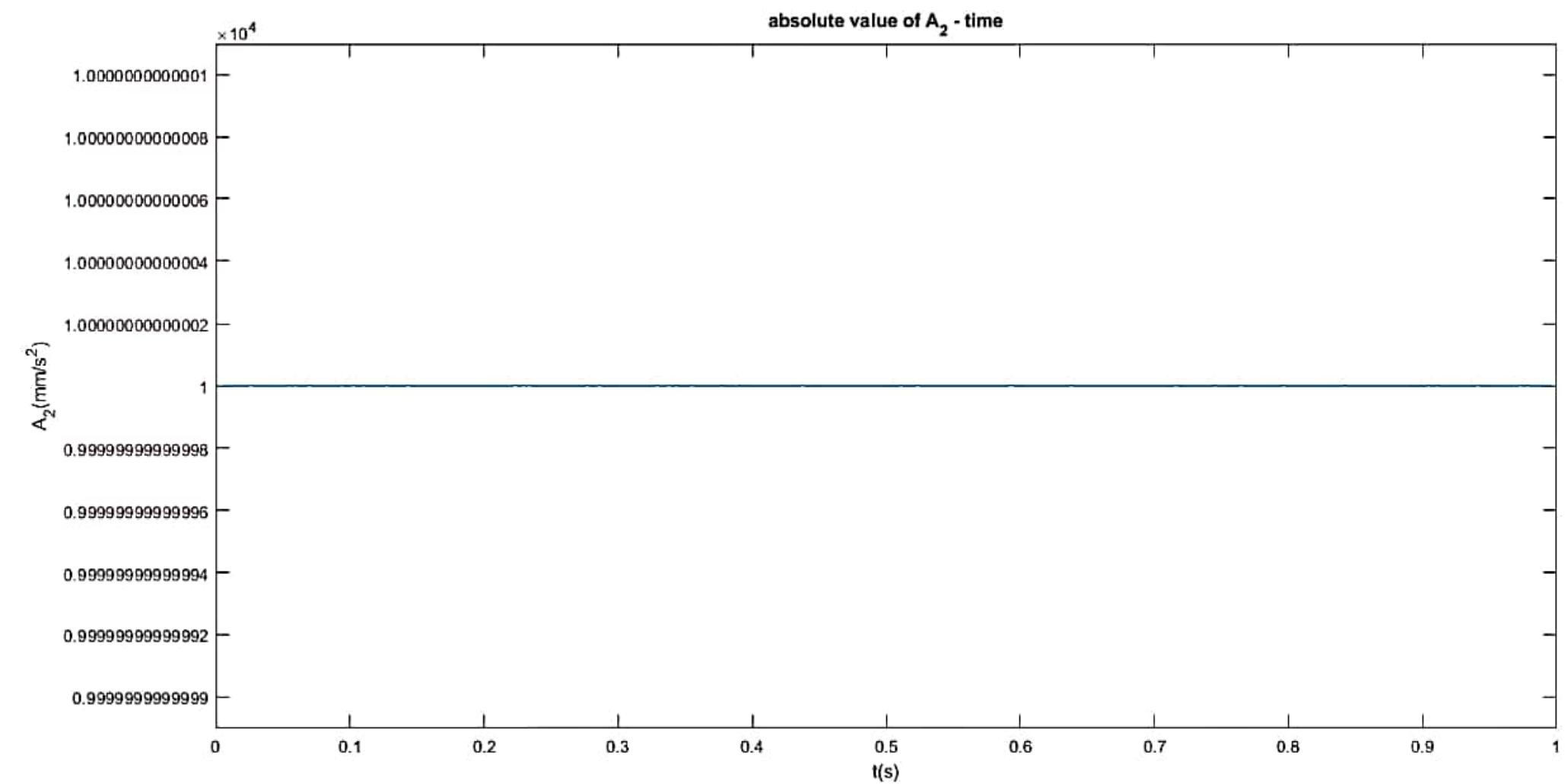




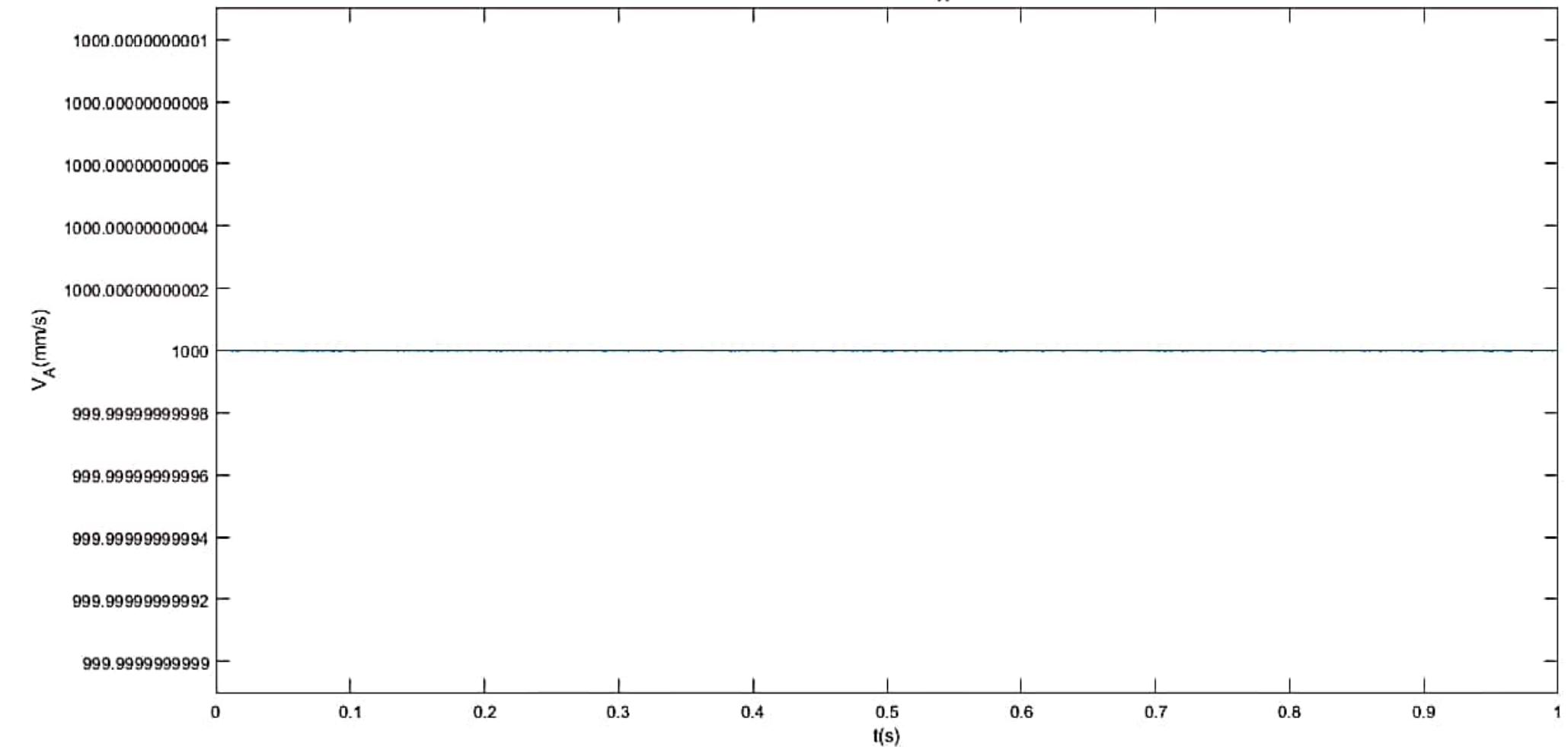


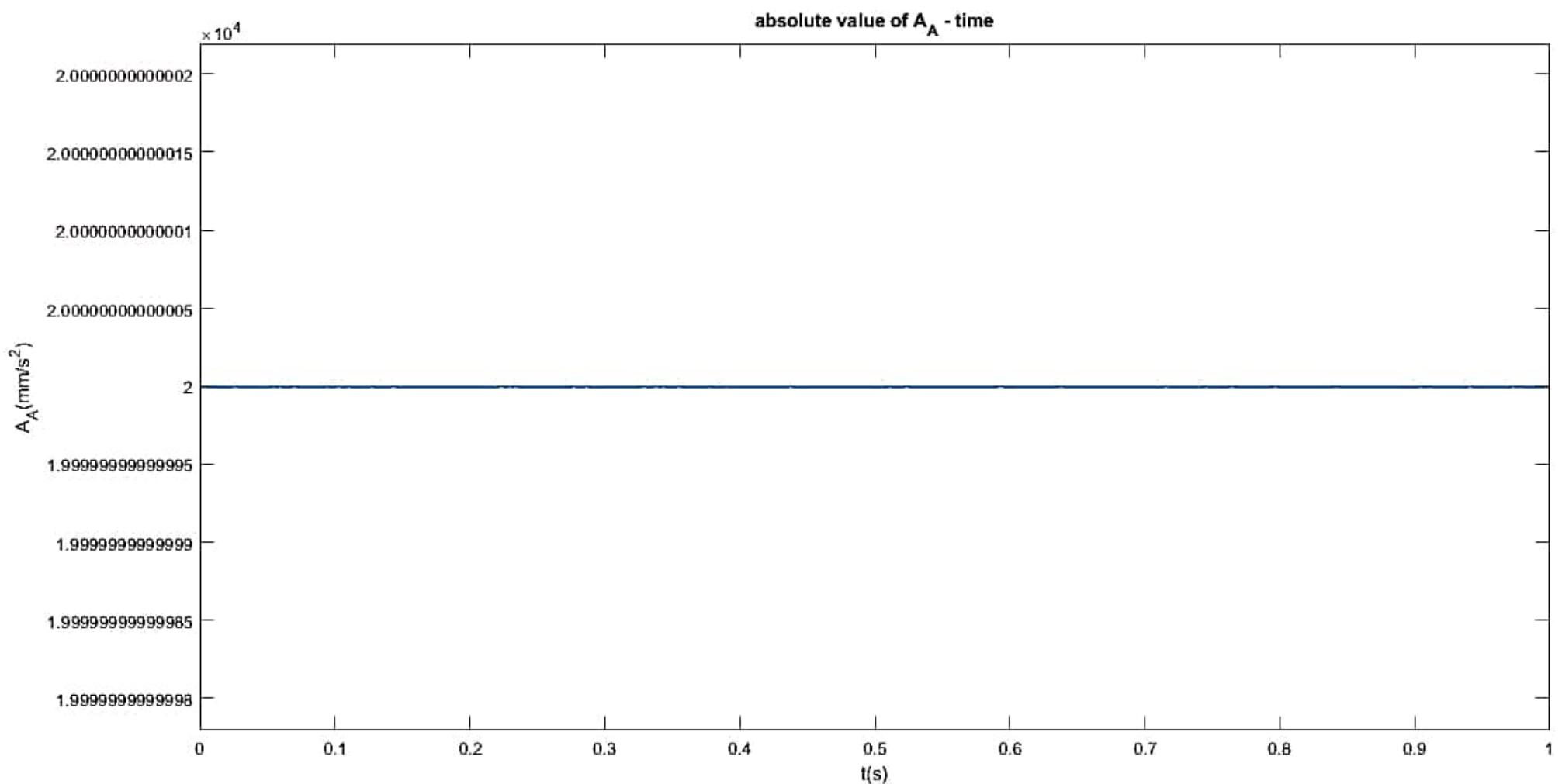


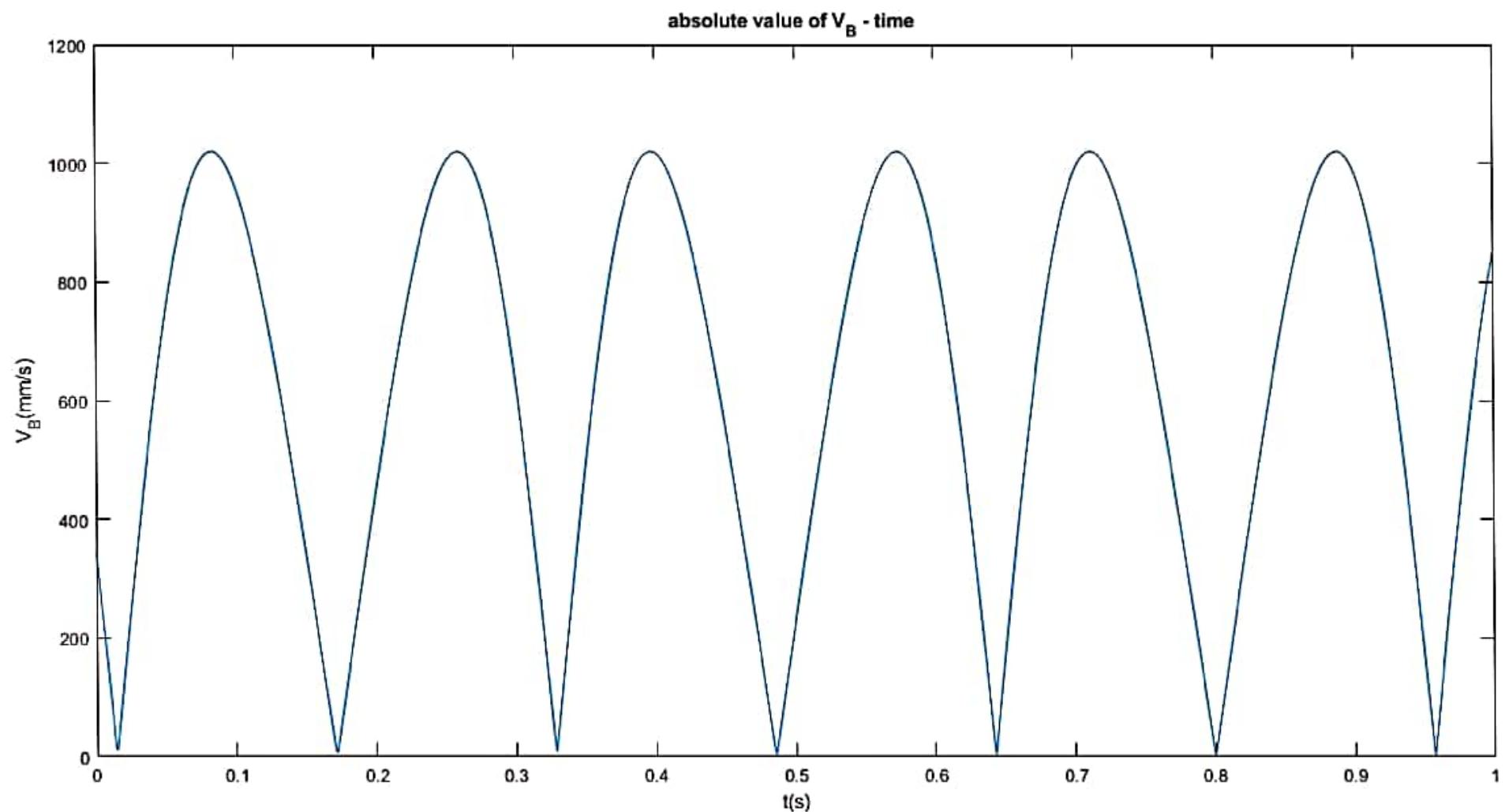


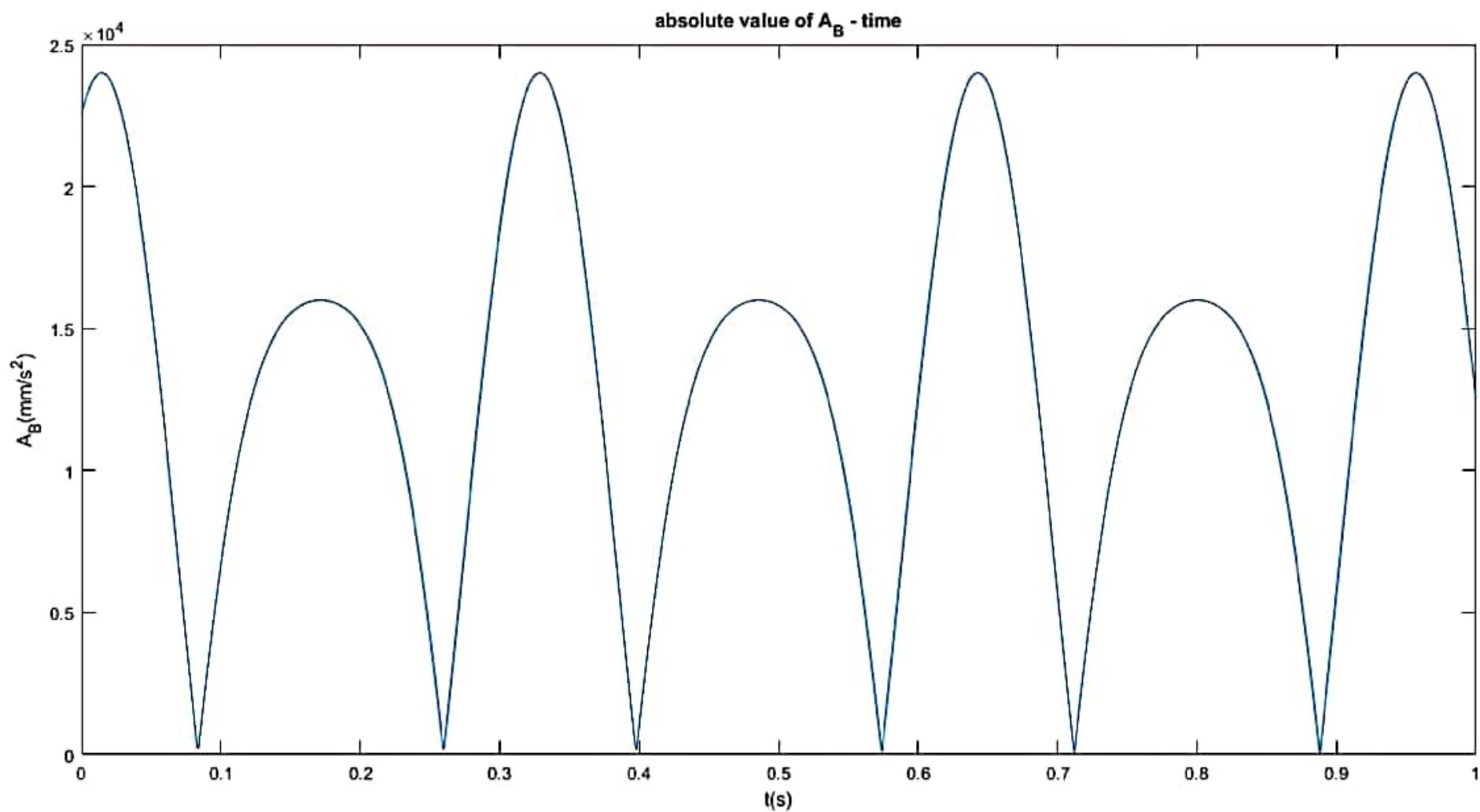


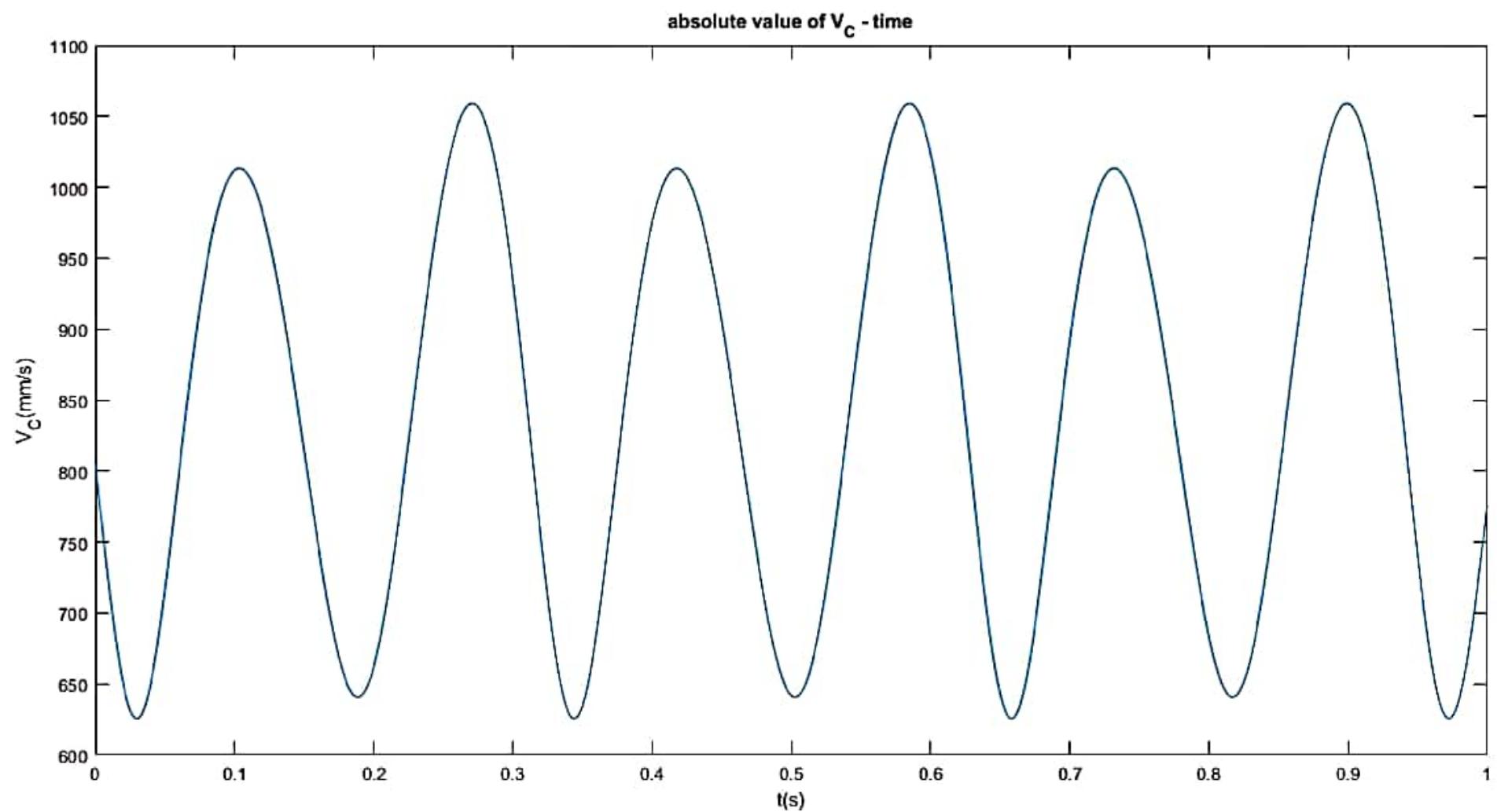
absolute value of V_A - time

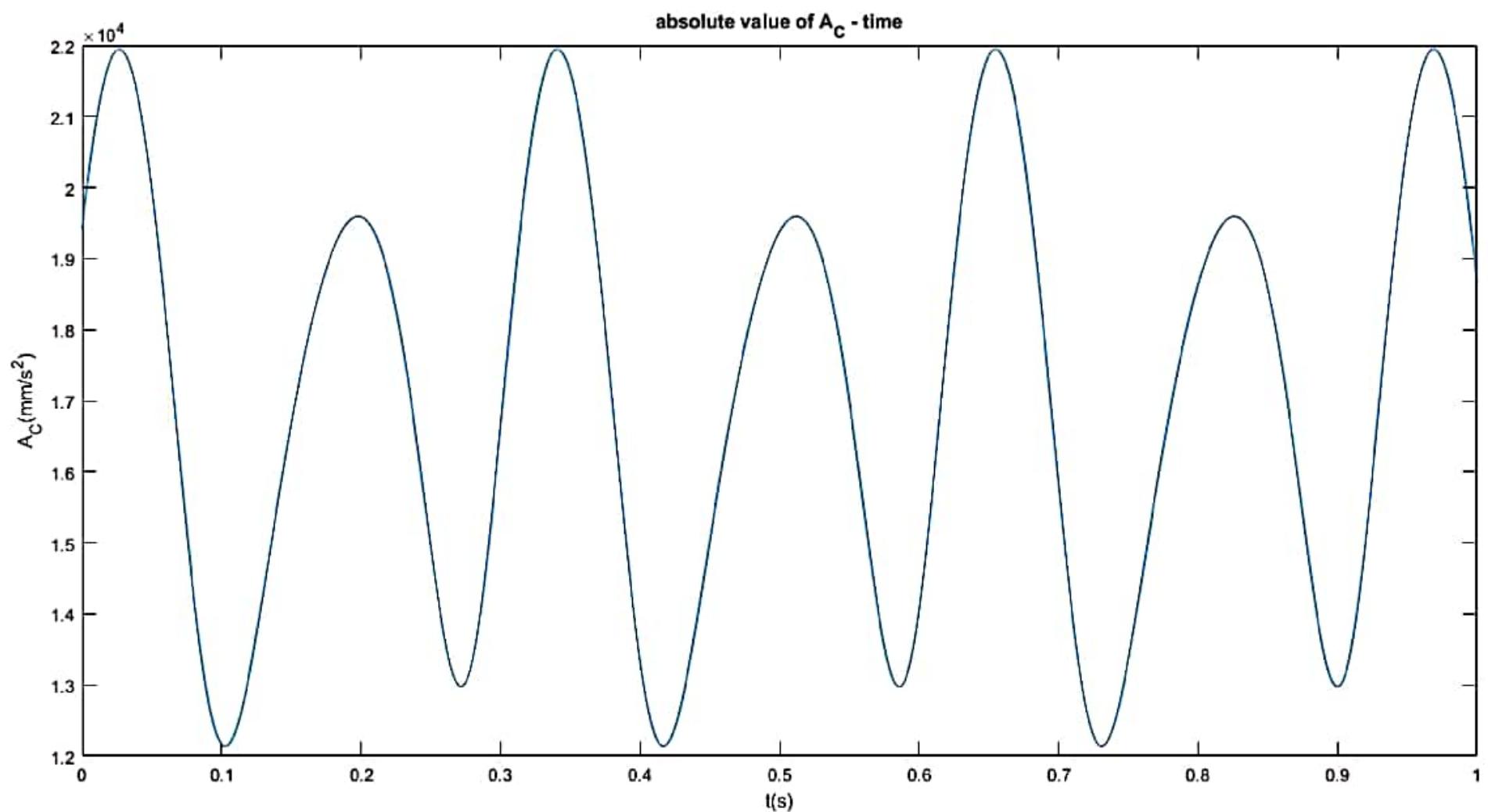


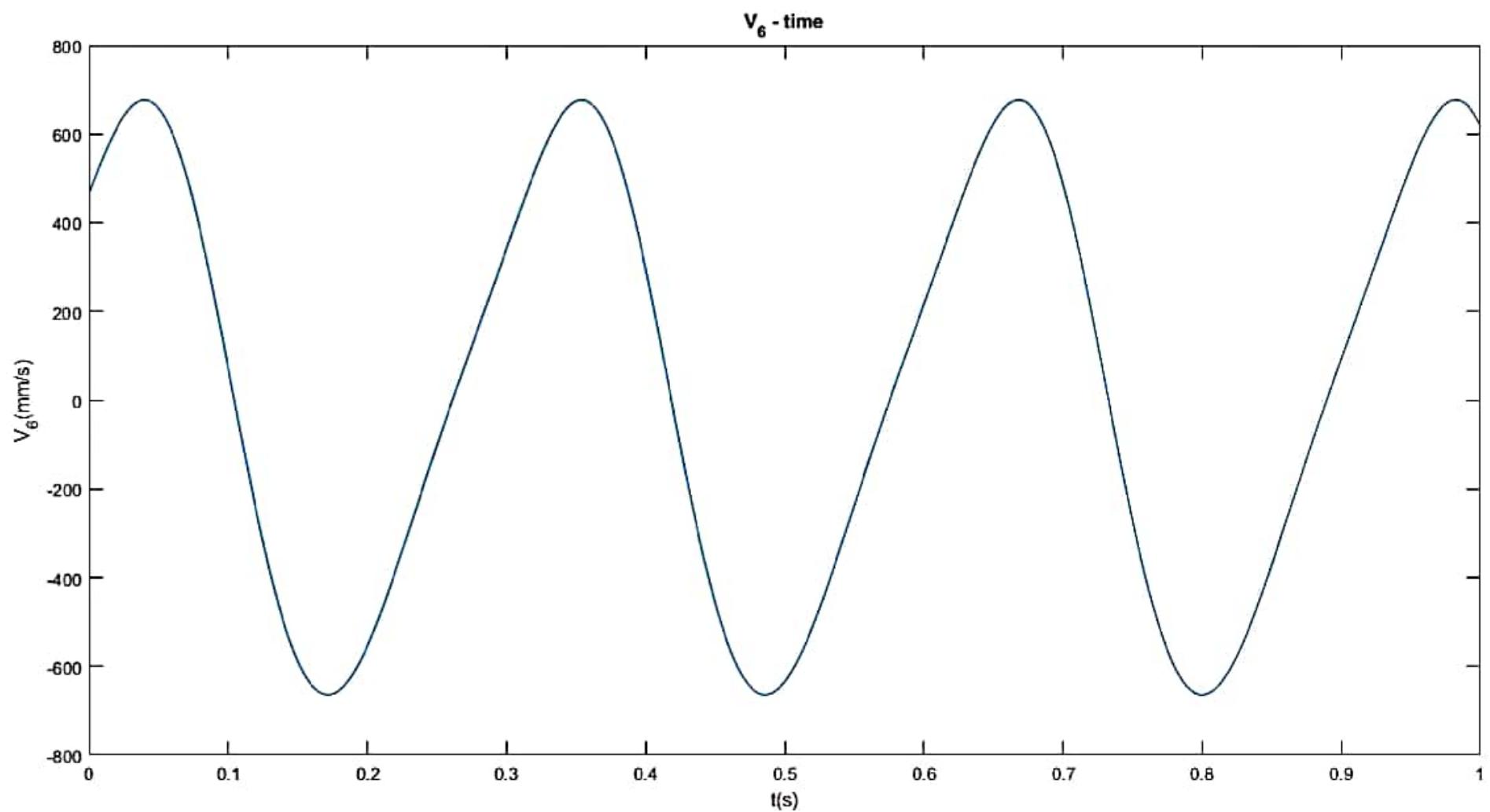


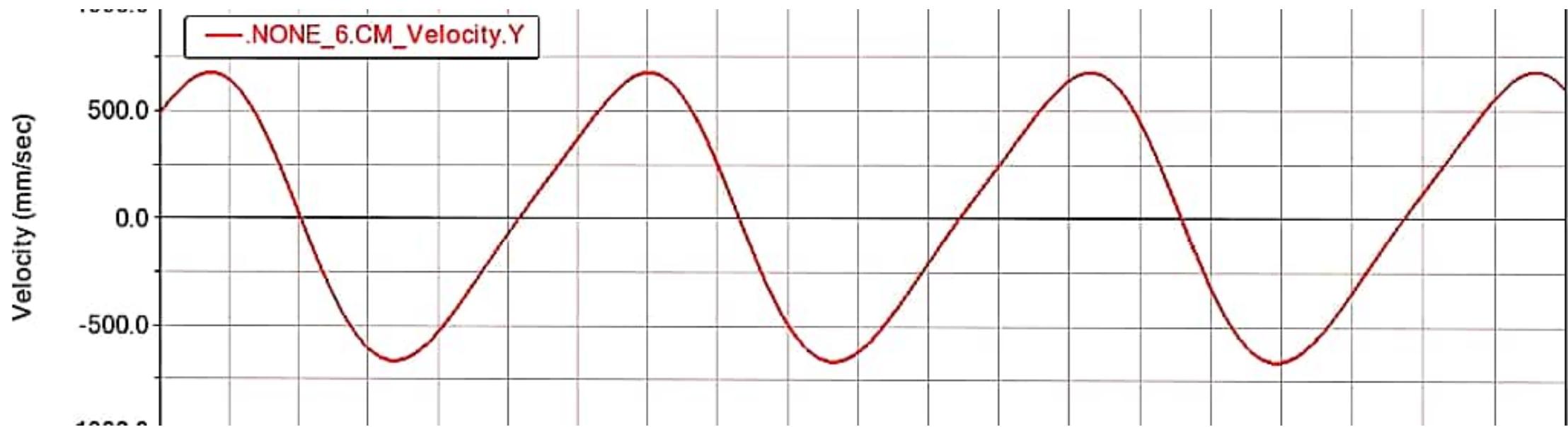


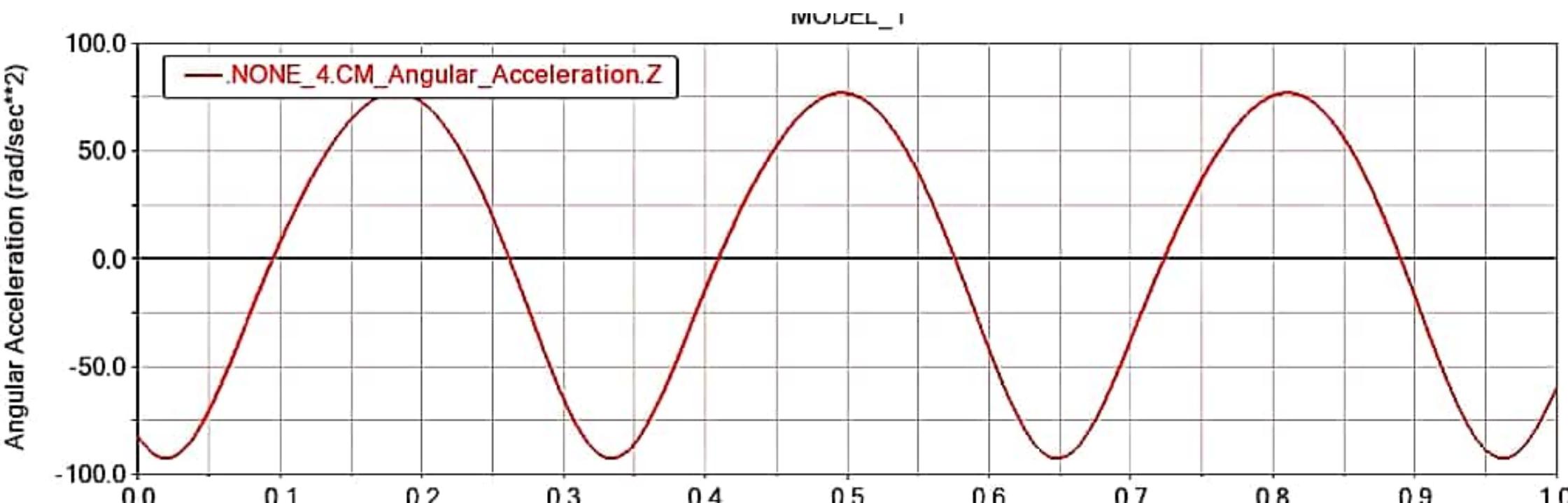




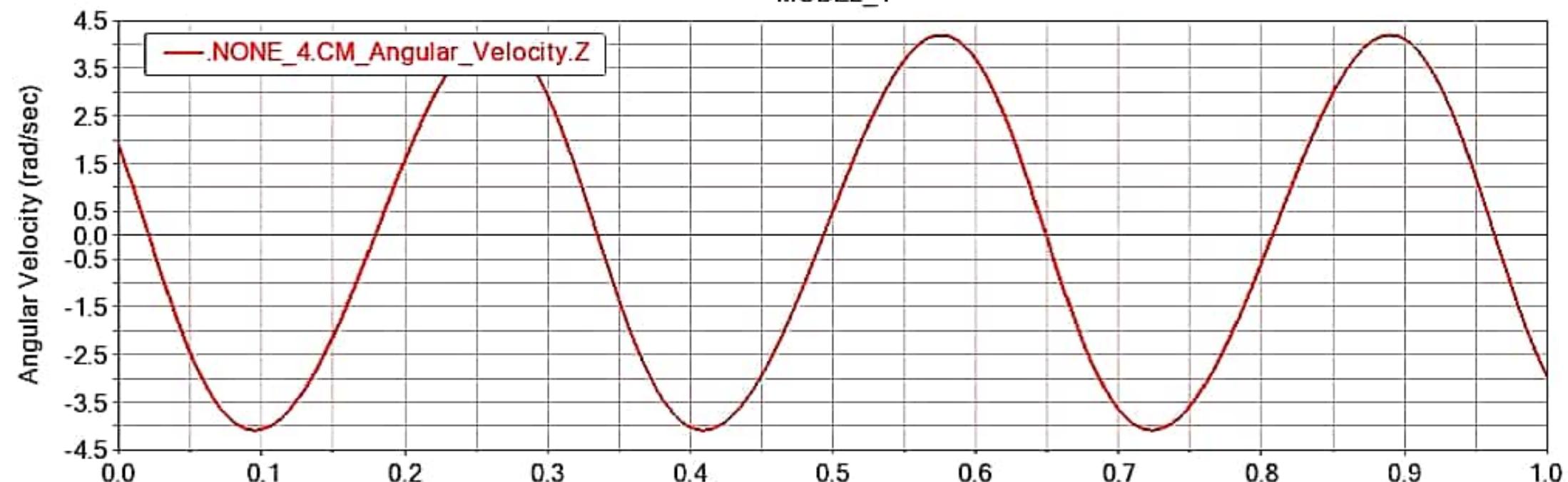


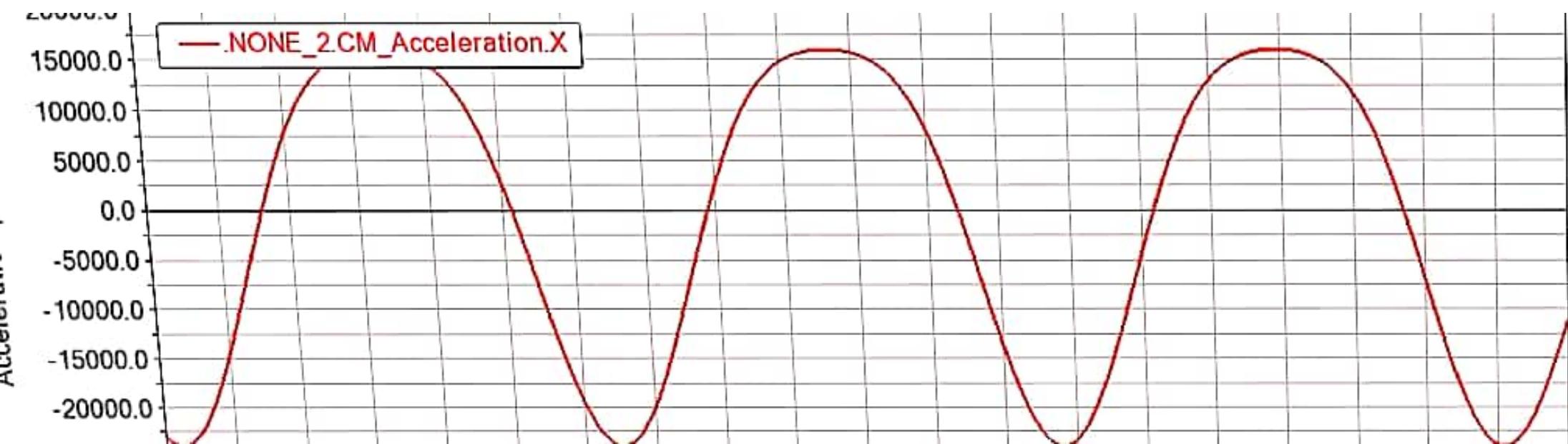




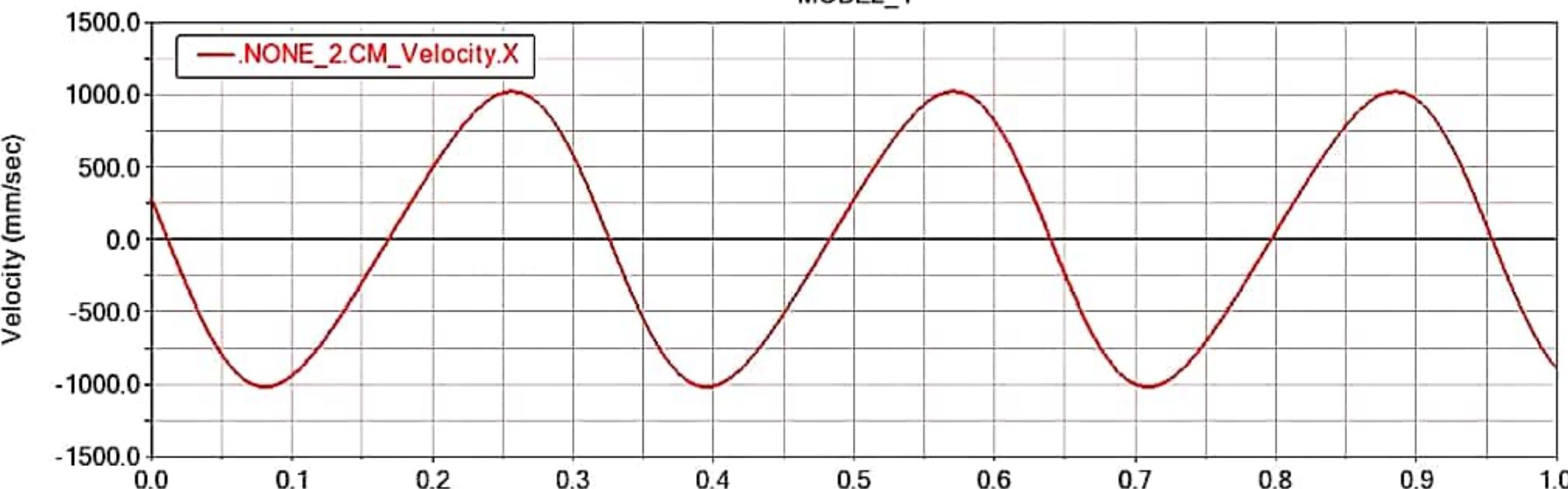


MODEL_I





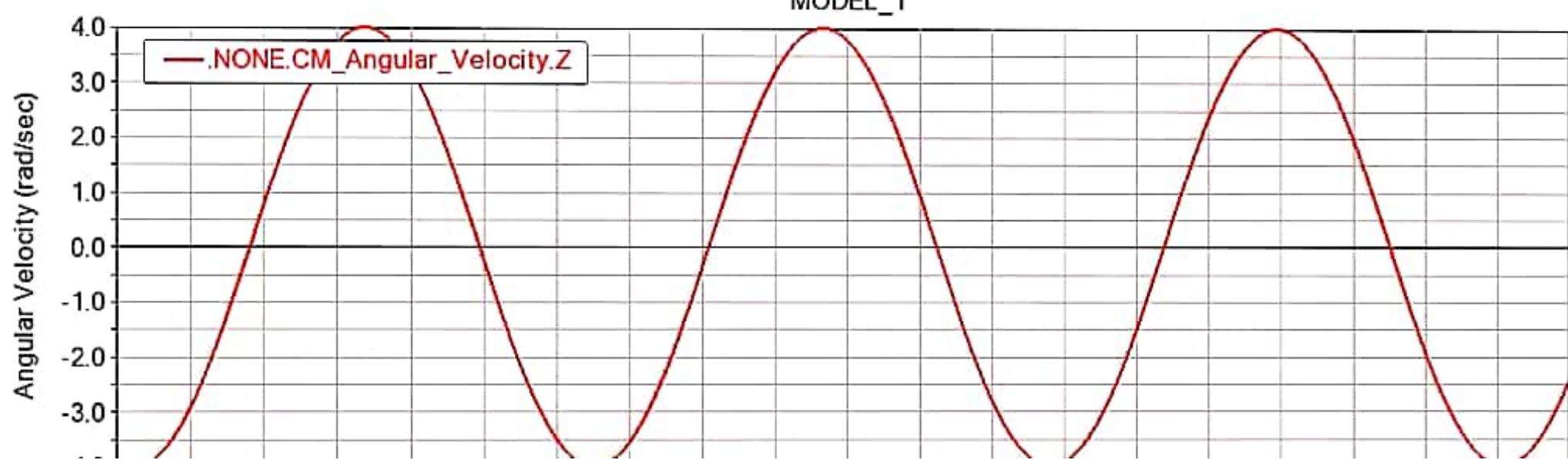
MODEL_1

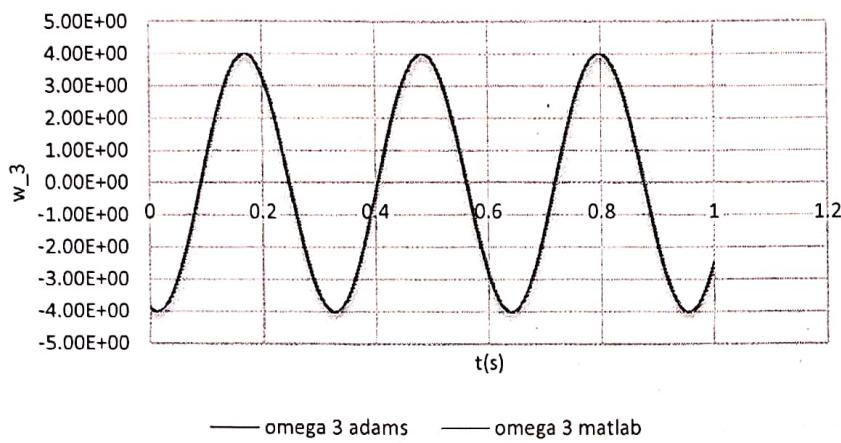
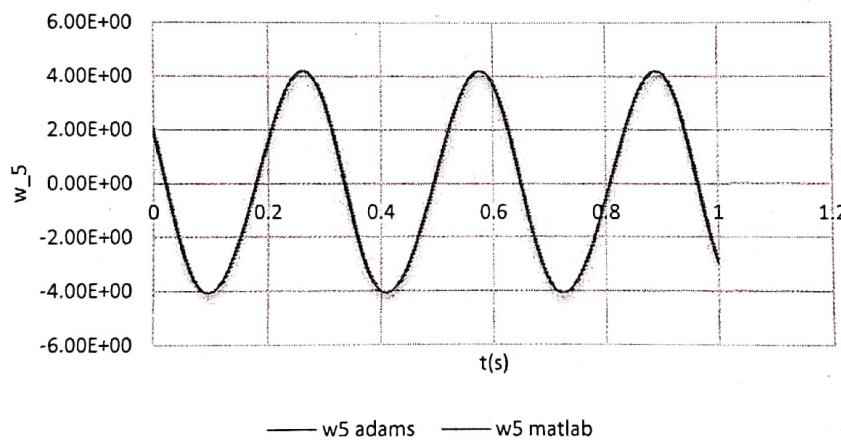


MODEL_1

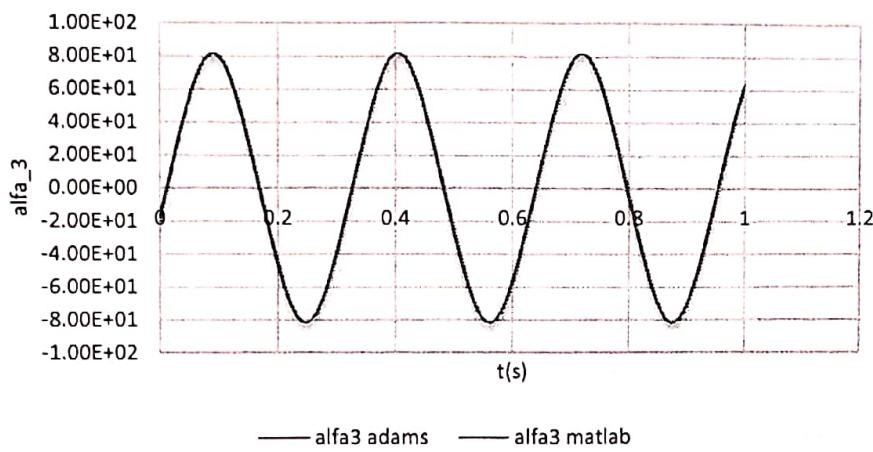


MODEL_1

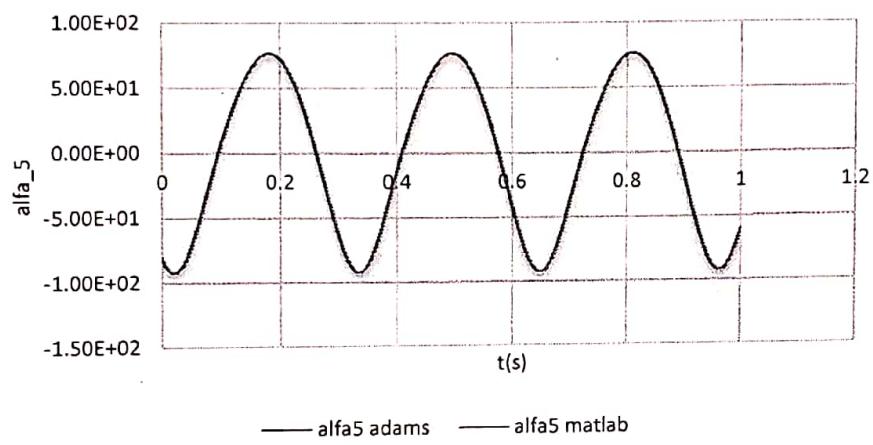


w3-time**w5-time**

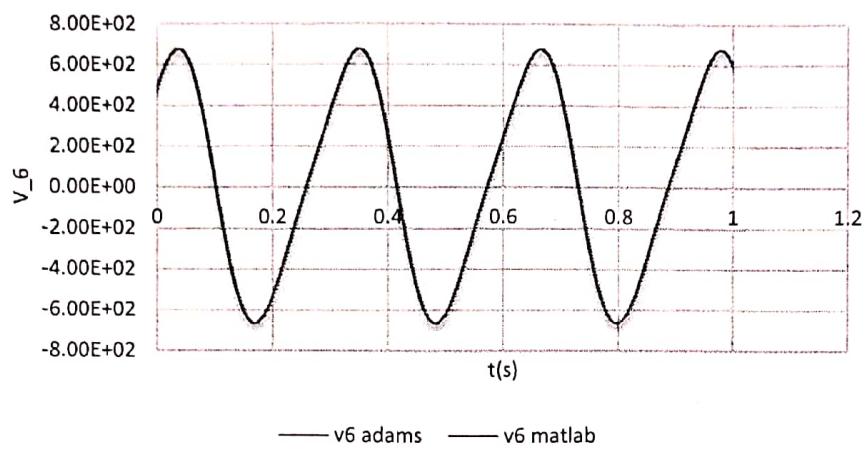
alfa3-time



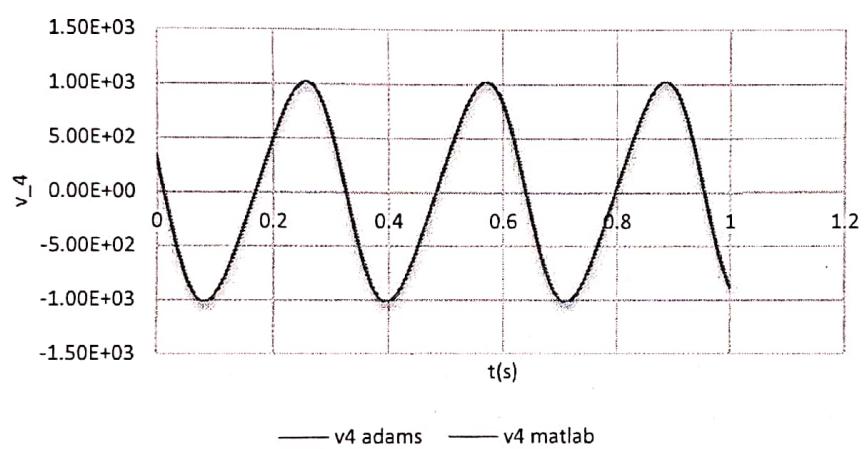
alfa5 -time



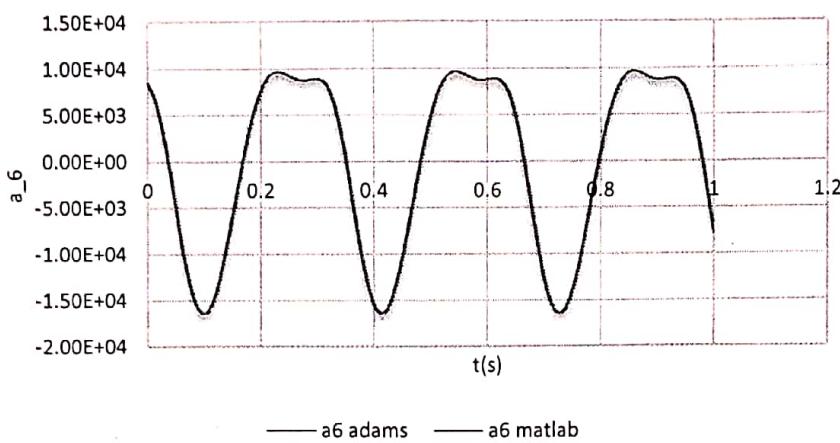
v6-time



v4-time



a6-time



a4-time

