

# Sea detuning sweep report (Ga sea / Al rare)

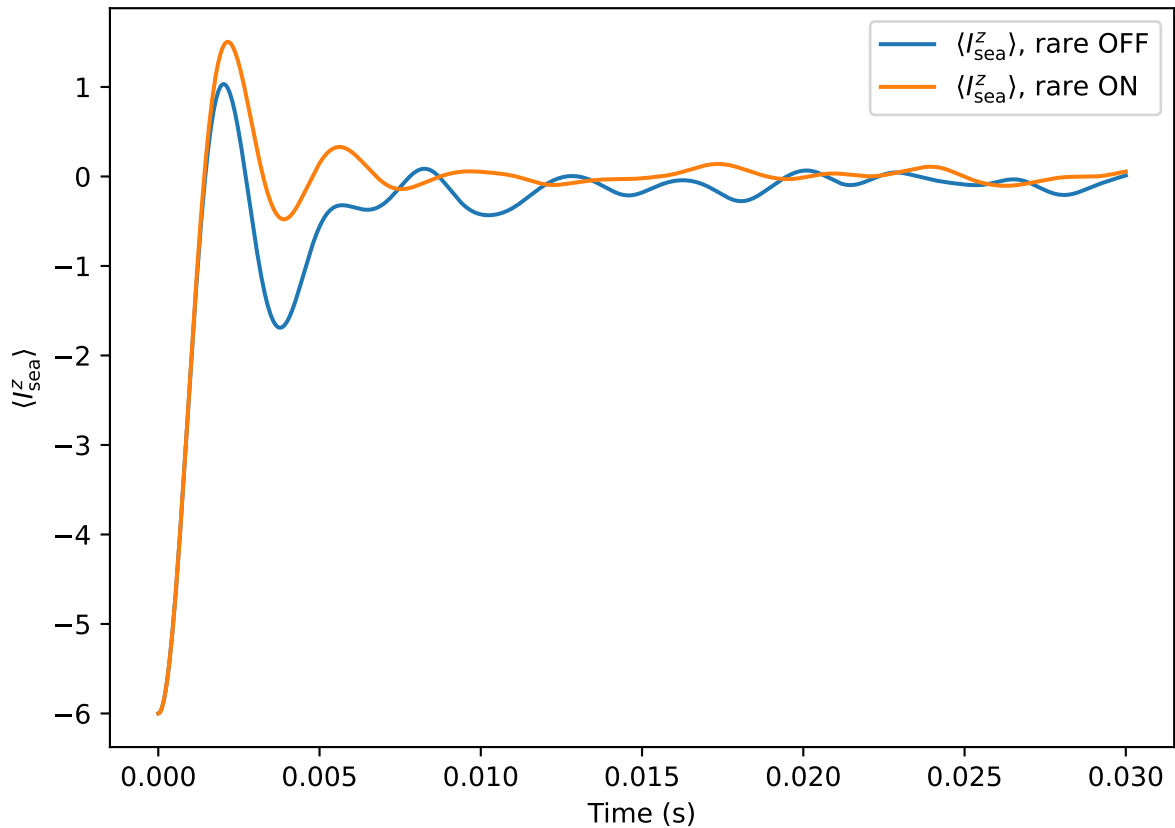
## Global parameters (constant across sweep):

f_Az (sea Larmor)	= 34.062 MHz
f_Rz (rare Larmor)	= 33.308 MHz
f1A (sea Rabi)	= 0.200 kHz
f1R (rare Rabi)	= 0.100 kHz
gamma_sea	= 7.134e+07 rad·s <sup>-1</sup> ·T <sup>-1</sup>
gamma_rare	= 6.976e+07 rad·s <sup>-1</sup> ·T <sup>-1</sup>
B0_common	= 3.000 T
B1_sea	= 1.761e-05 T
B1_rare	= 9.007e-06 T
dipolar_scale_SI	= 1.055e-41
shell_scale	= 0.300 nm
t_final	= 3.000e-02 s
steps	= 2000
n_sea	= 12
phi_sea	= 0.000 rad
phi_rare	= 0.000 rad

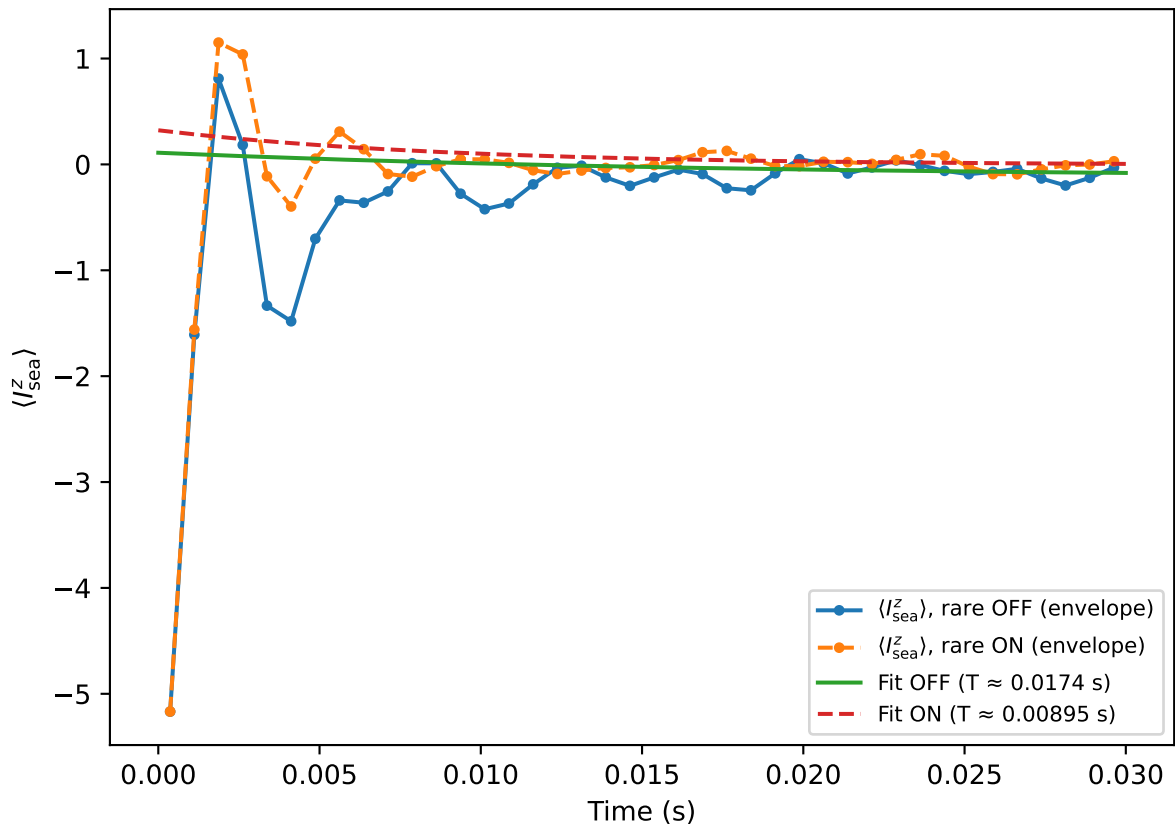
## Sea detunings ( $\delta_A = f_{Az} - f_{rf,A}$ ) in Hz:

+0.0, +125.0, +250.0, +375.0, +500.0, +625.0, +750.0, +875.0, +1000.0

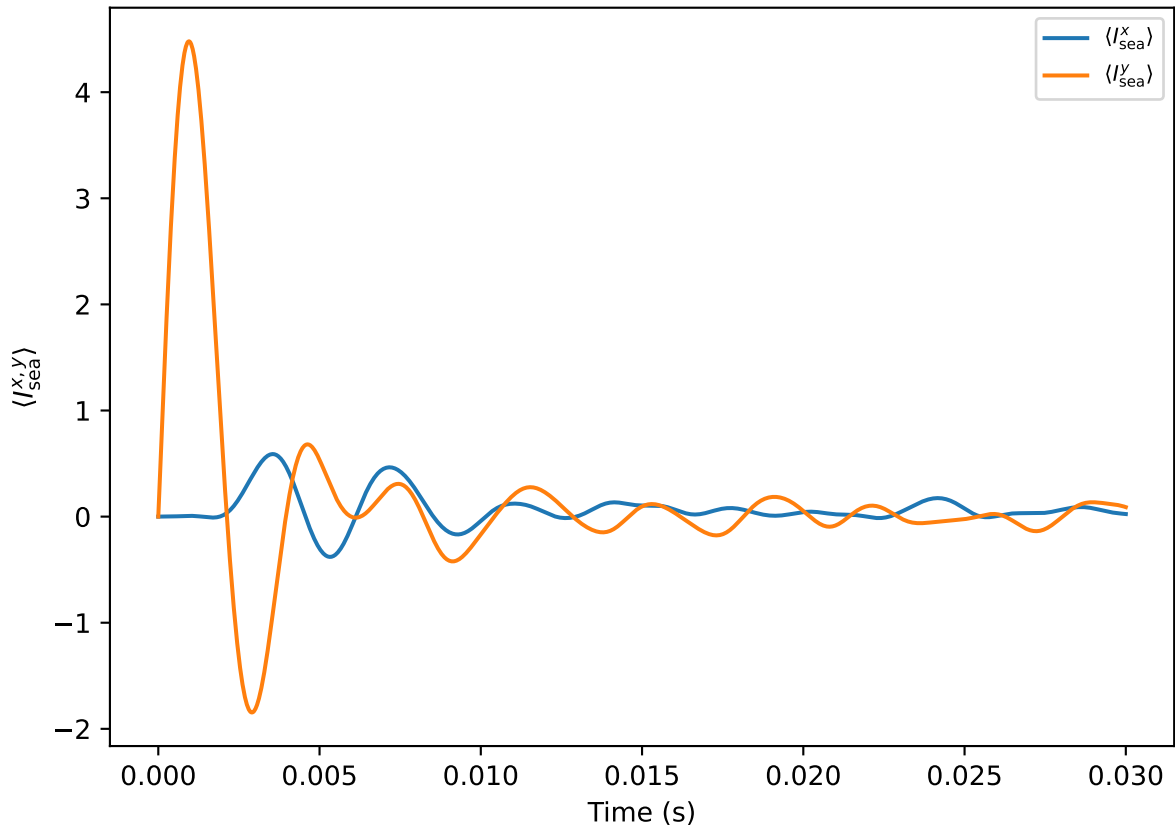
$\delta_A = +0.0$  Hz



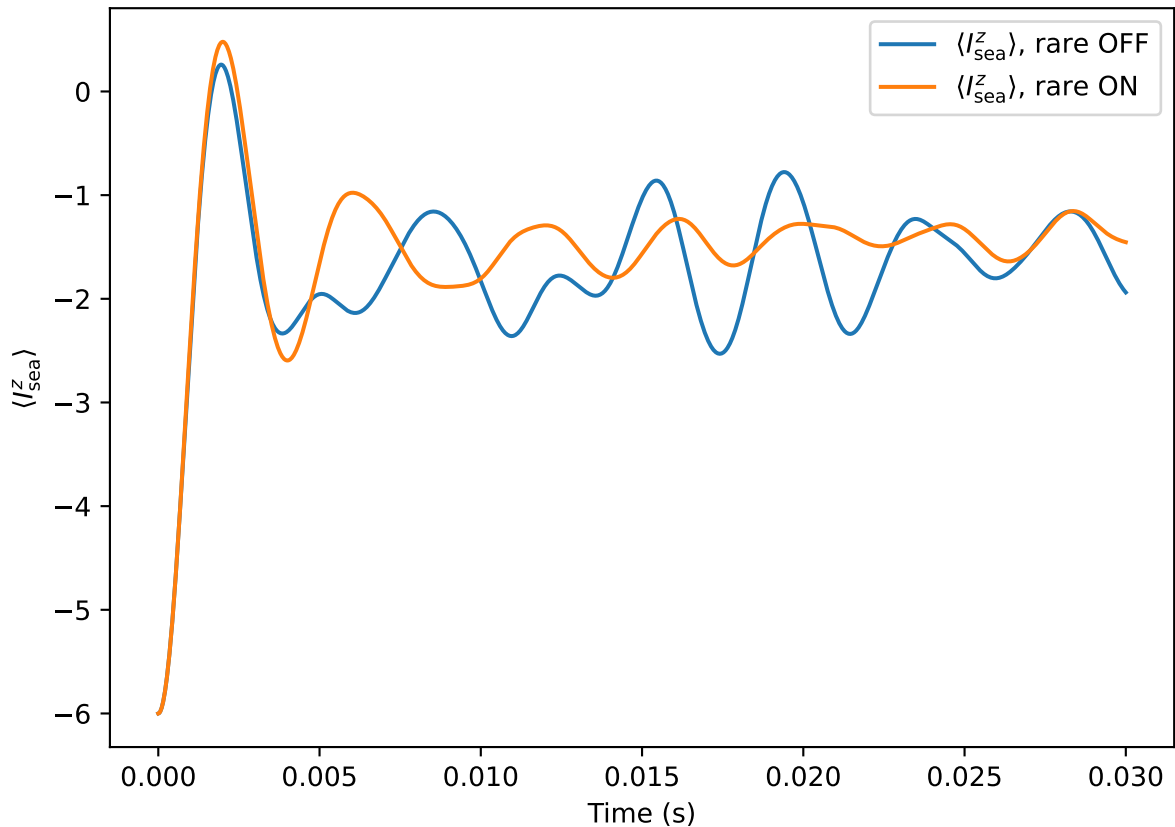
$\delta\_A = +0.0$  Hz (pseudo  $T_1$  envelope)



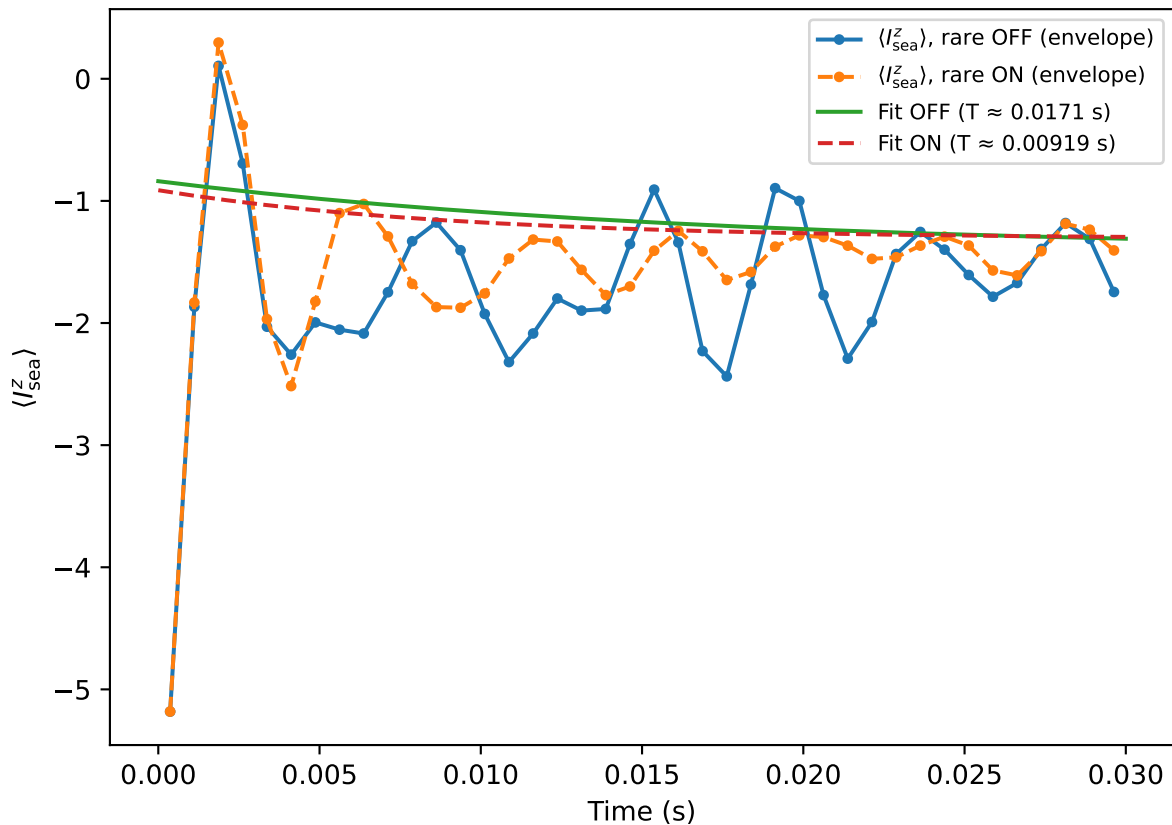
$\delta\_A = +0.0$  Hz (rare drive OFF)



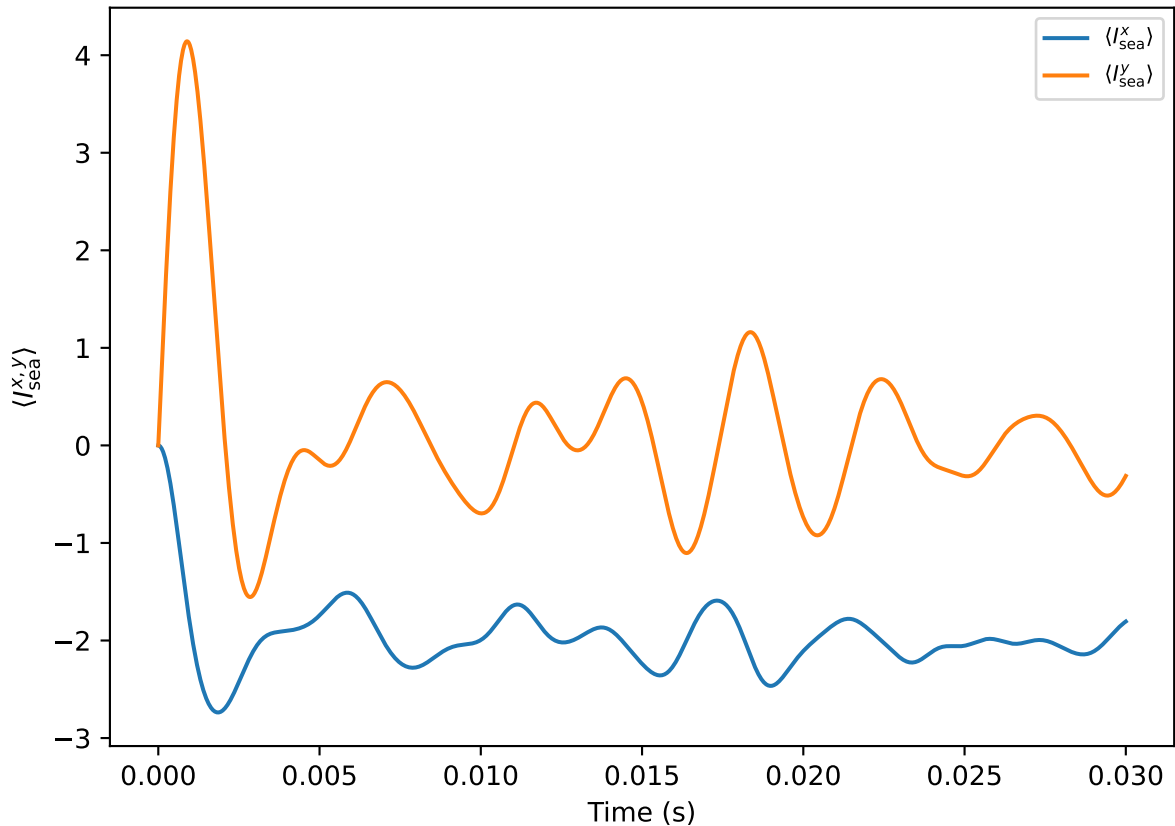
$\delta\_A = +125.0$  Hz



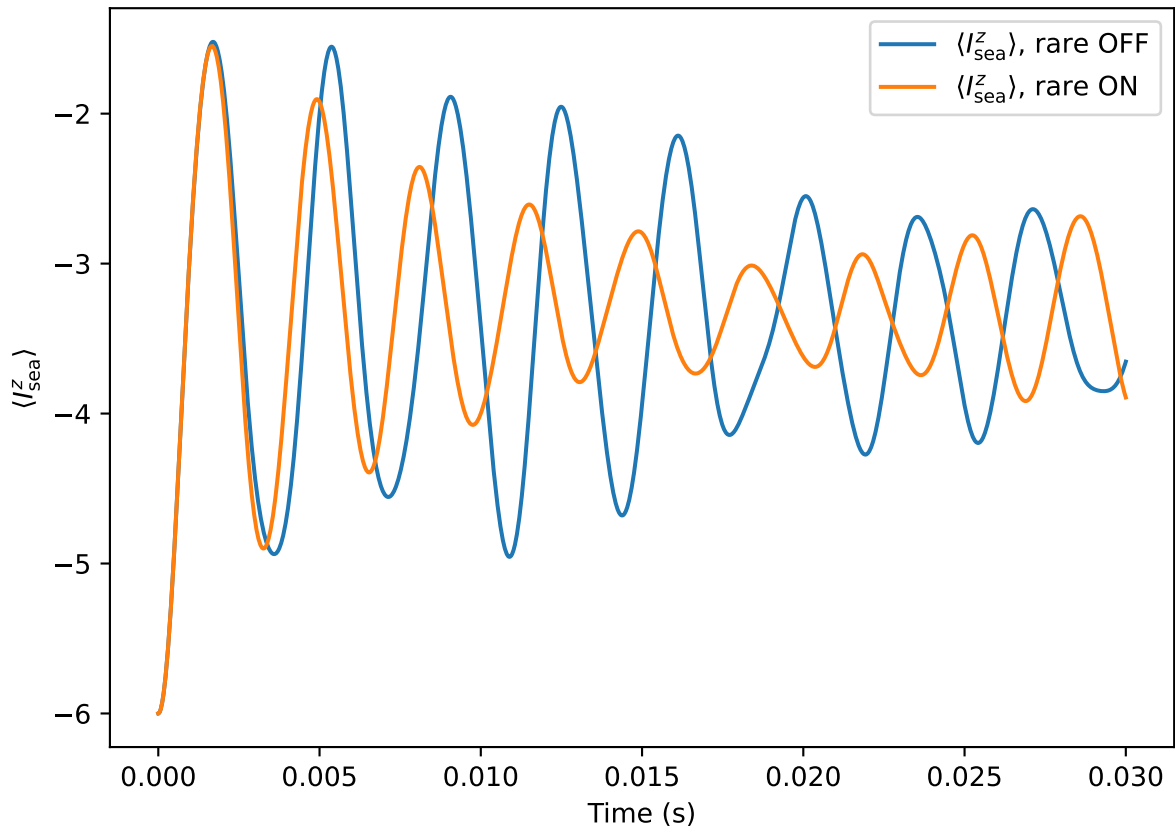
$\delta_A = +125.0$  Hz (pseudo  $T_1$  envelope)



$\delta_A = +125.0$  Hz (rare drive OFF)

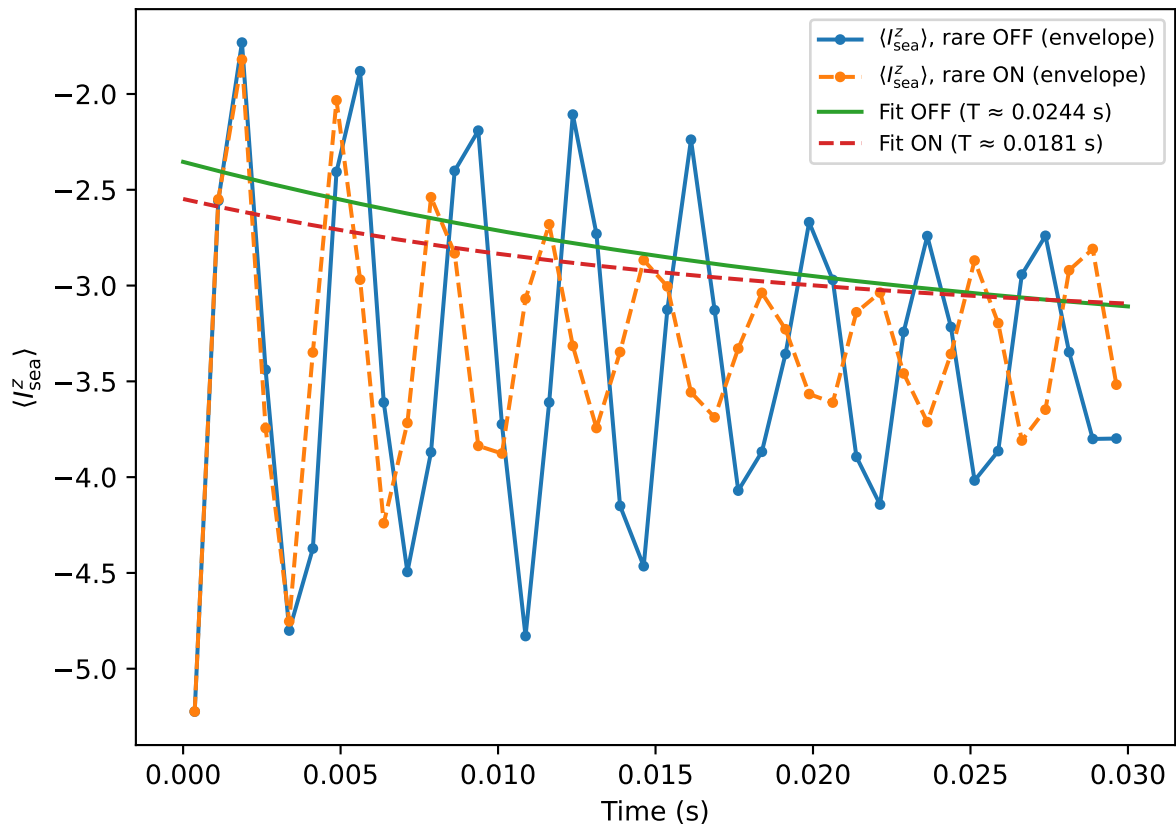


$\delta_A = +250.0$  Hz

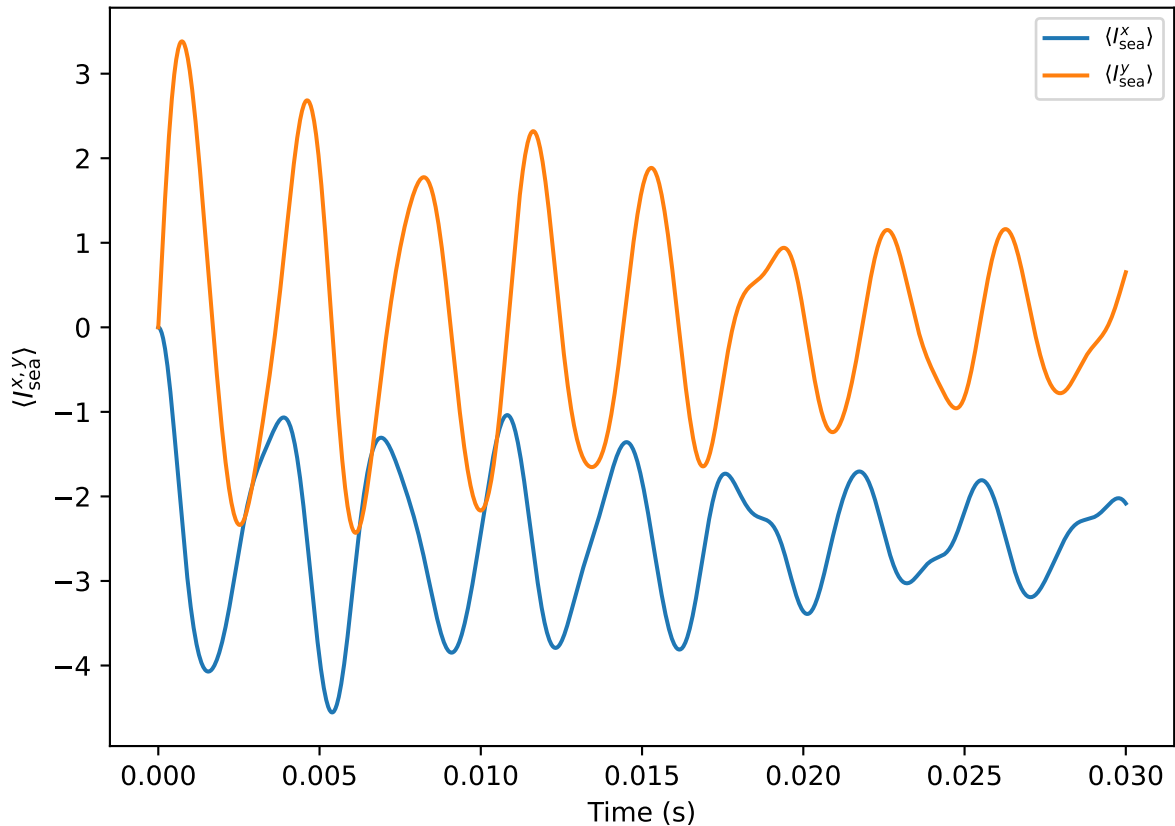




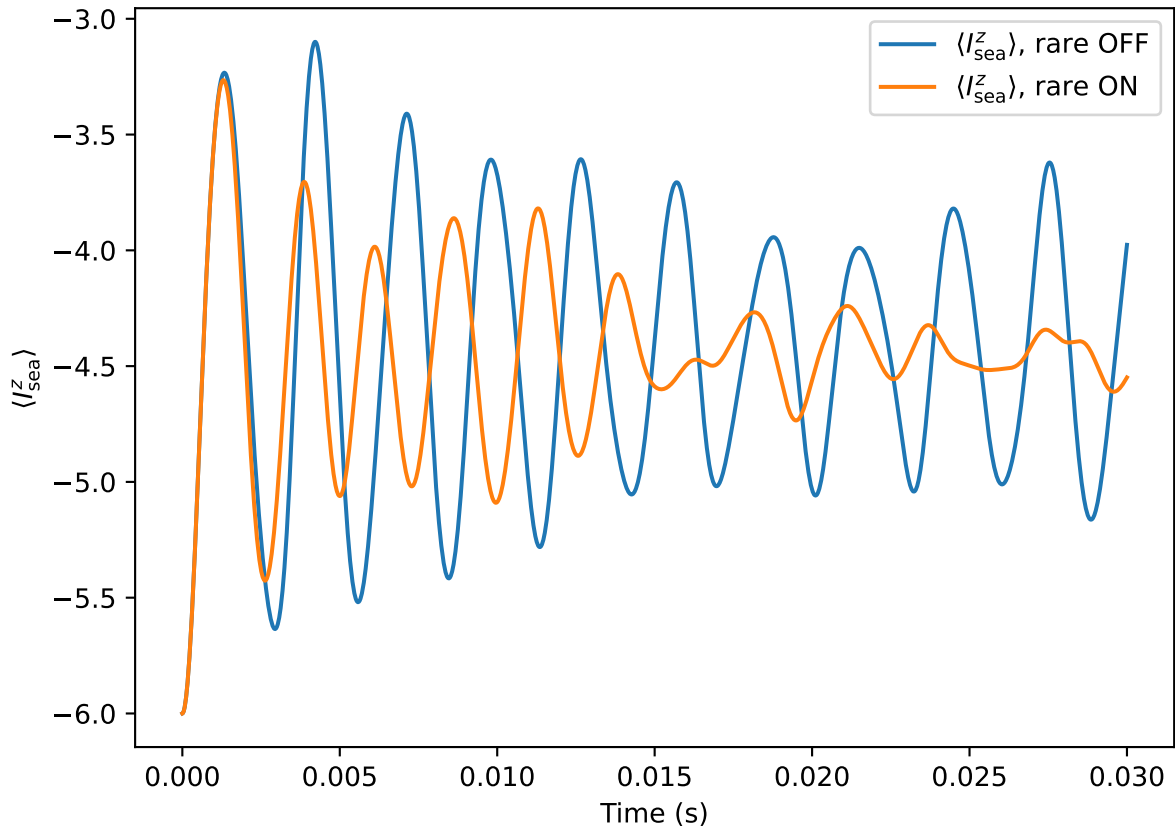
$\delta_A = +250.0$  Hz (pseudo  $T_1$  envelope)



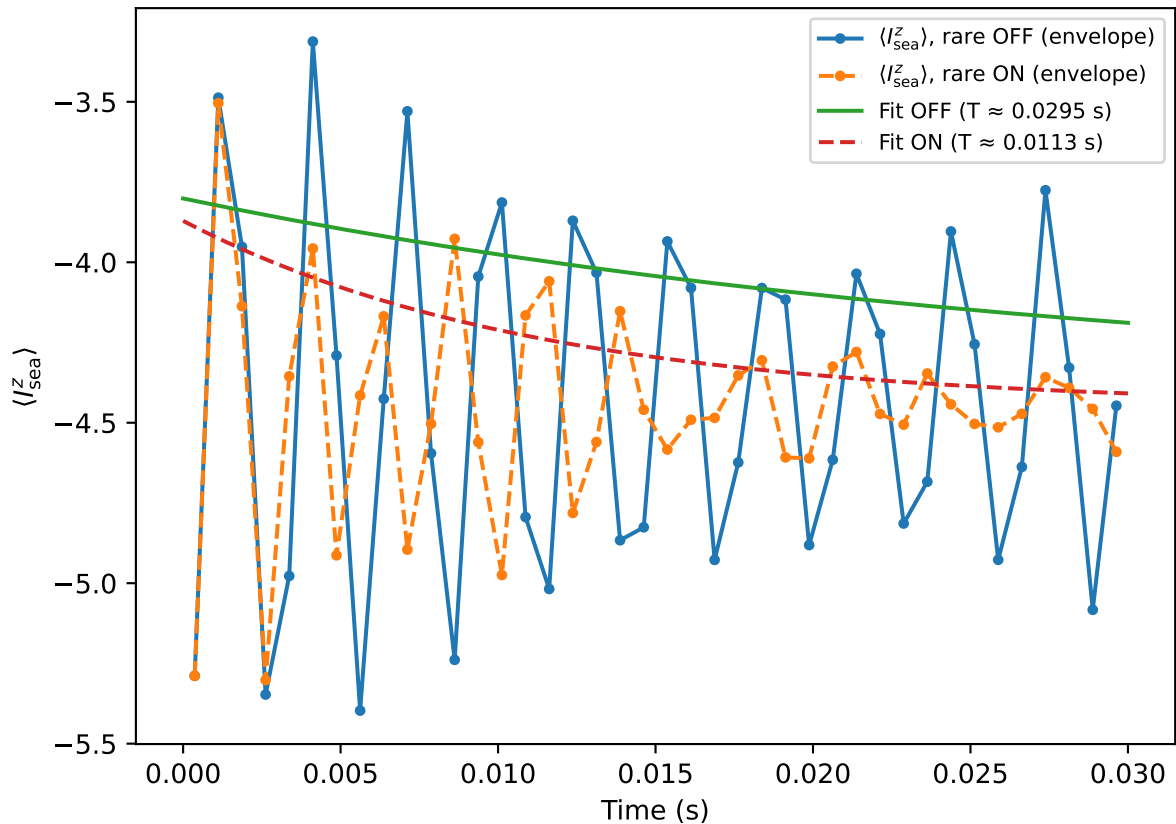
$\delta_A = +250.0$  Hz (rare drive OFF)



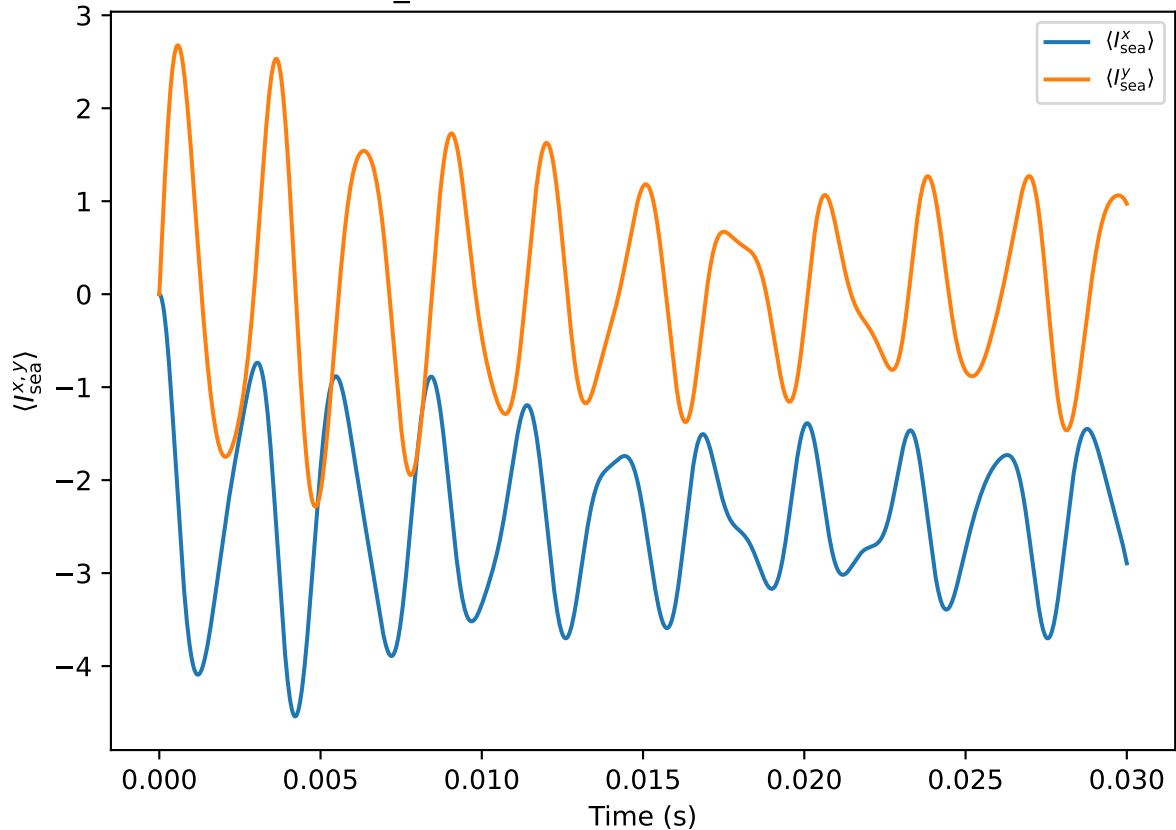
$\delta\_A = +375.0$  Hz



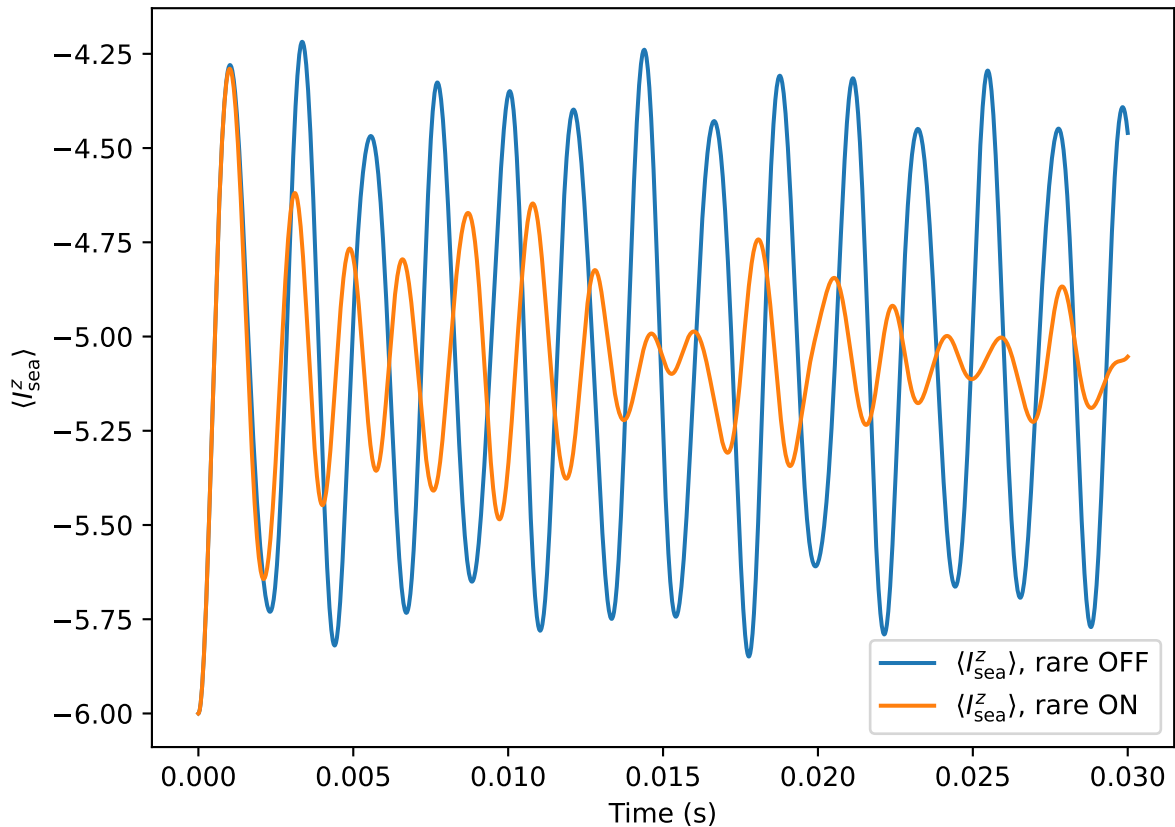
$\delta_A = +375.0$  Hz (pseudo  $T_1$  envelope)



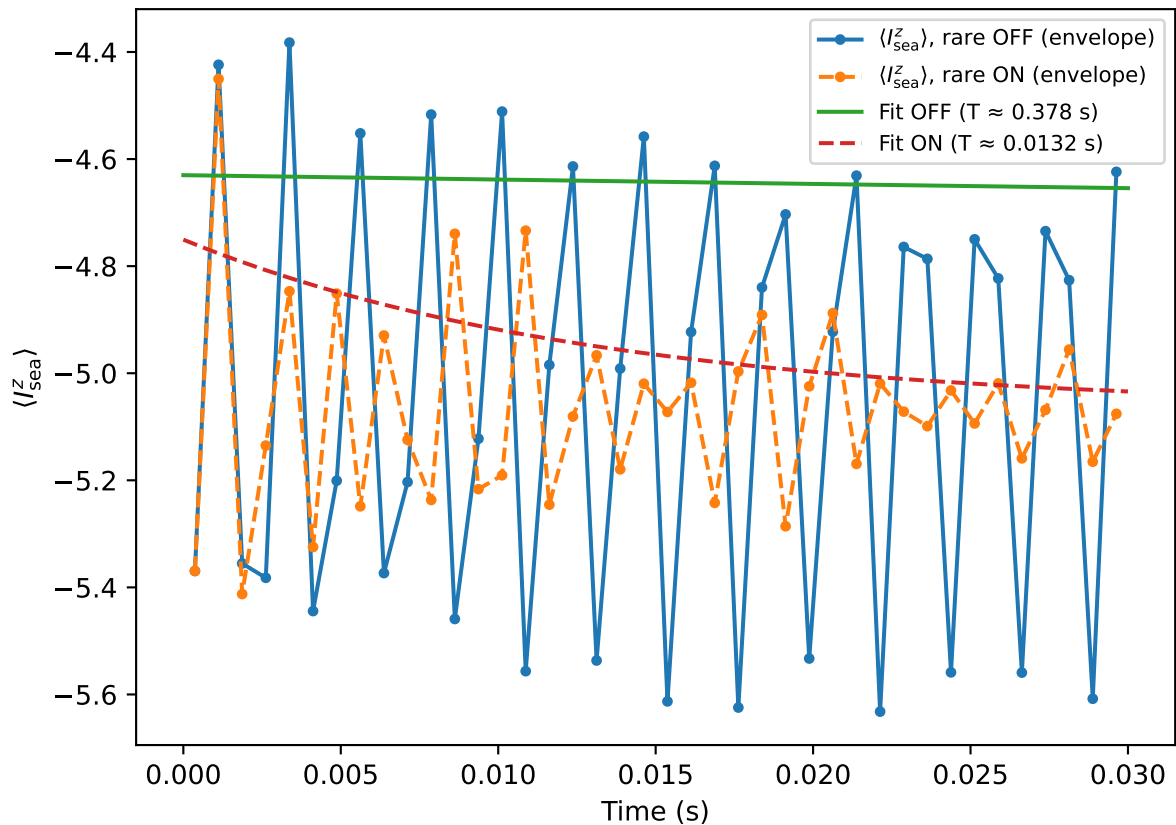
$\delta_A = +375.0$  Hz (rare drive OFF)



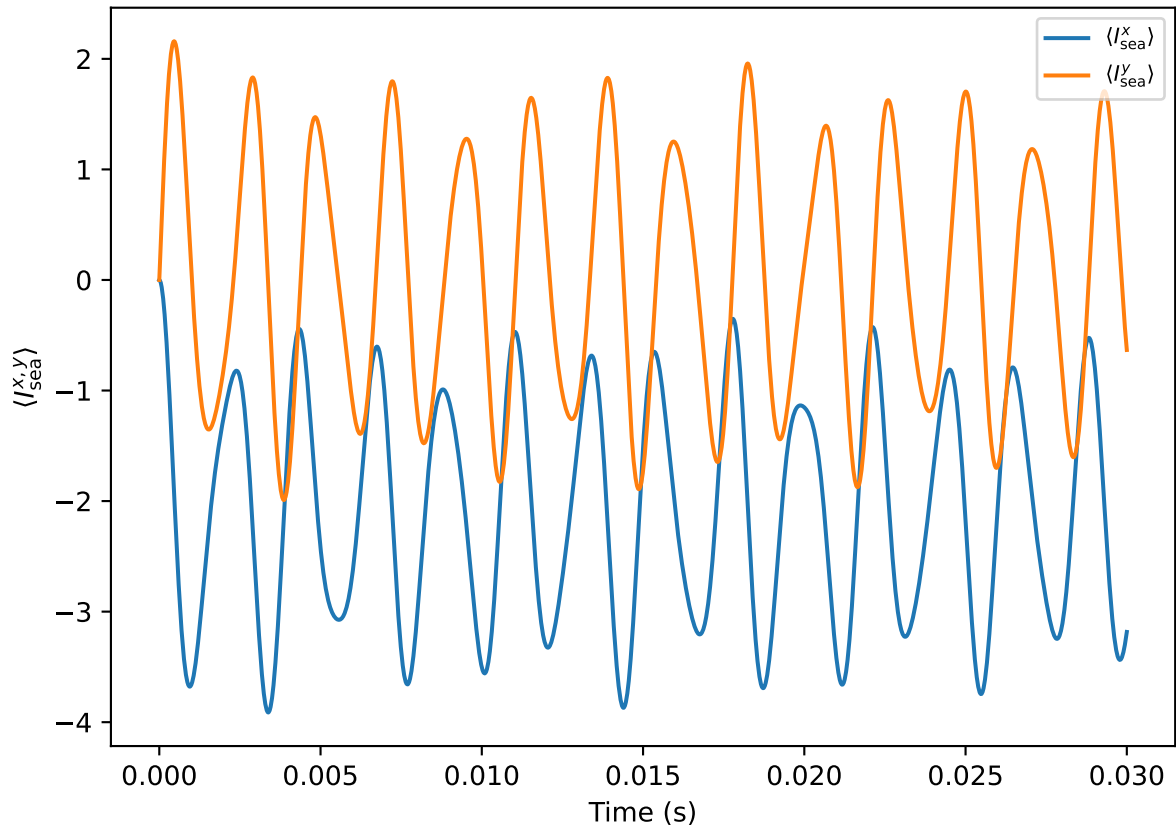
$\delta\_A = +500.0$  Hz



$\delta\_A = +500.0$  Hz (pseudo  $T_1$  envelope)

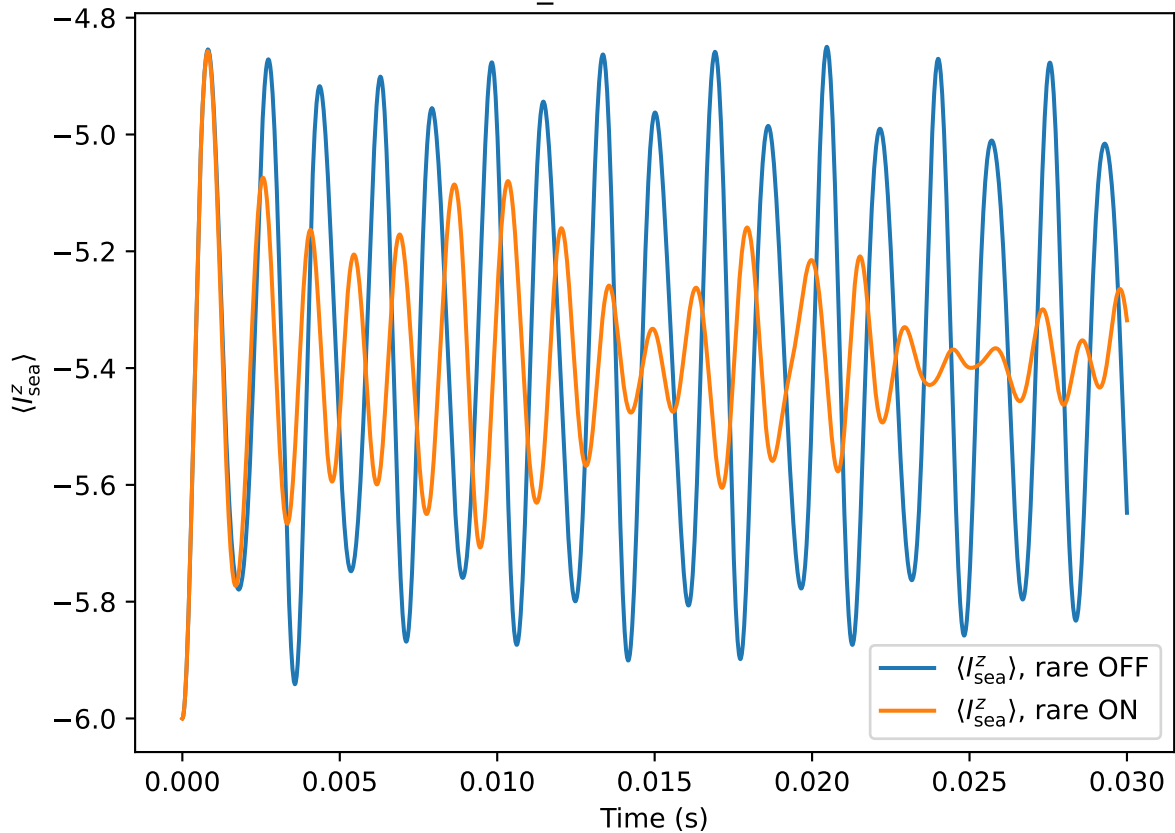


$\delta\_A = +500.0$  Hz (rare drive OFF)

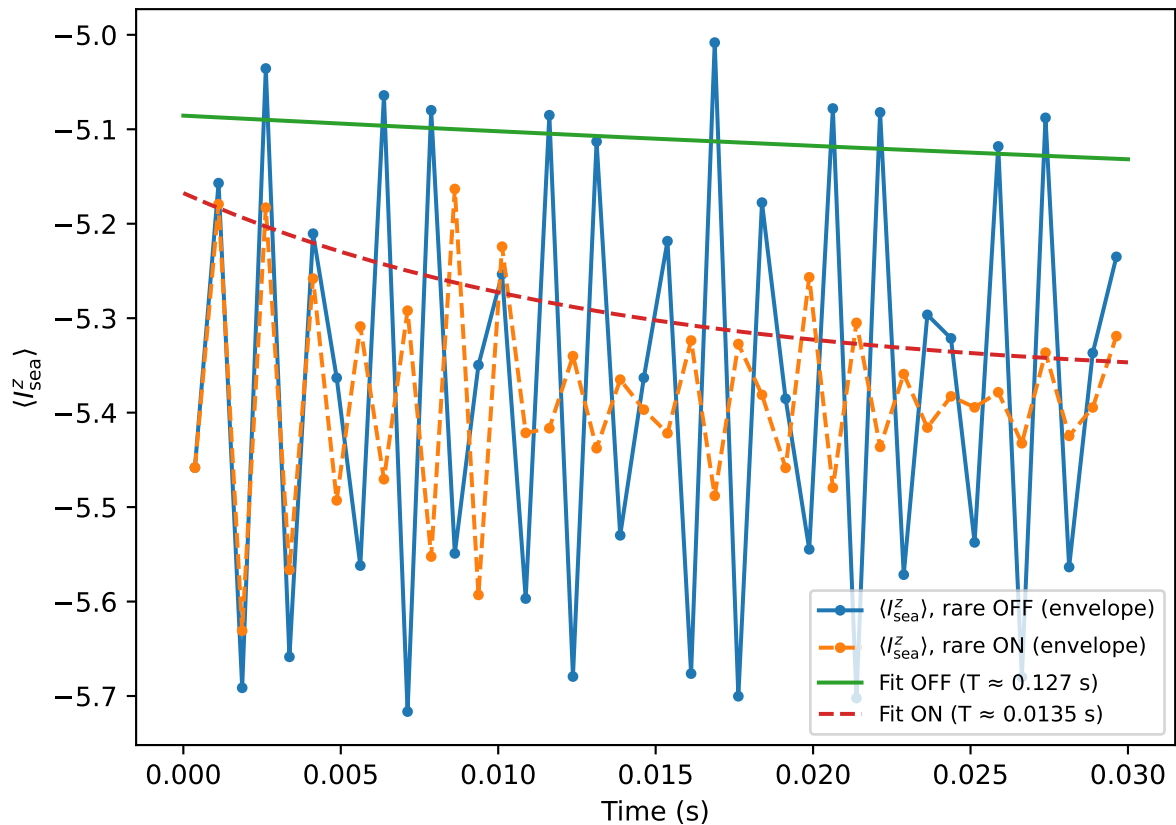




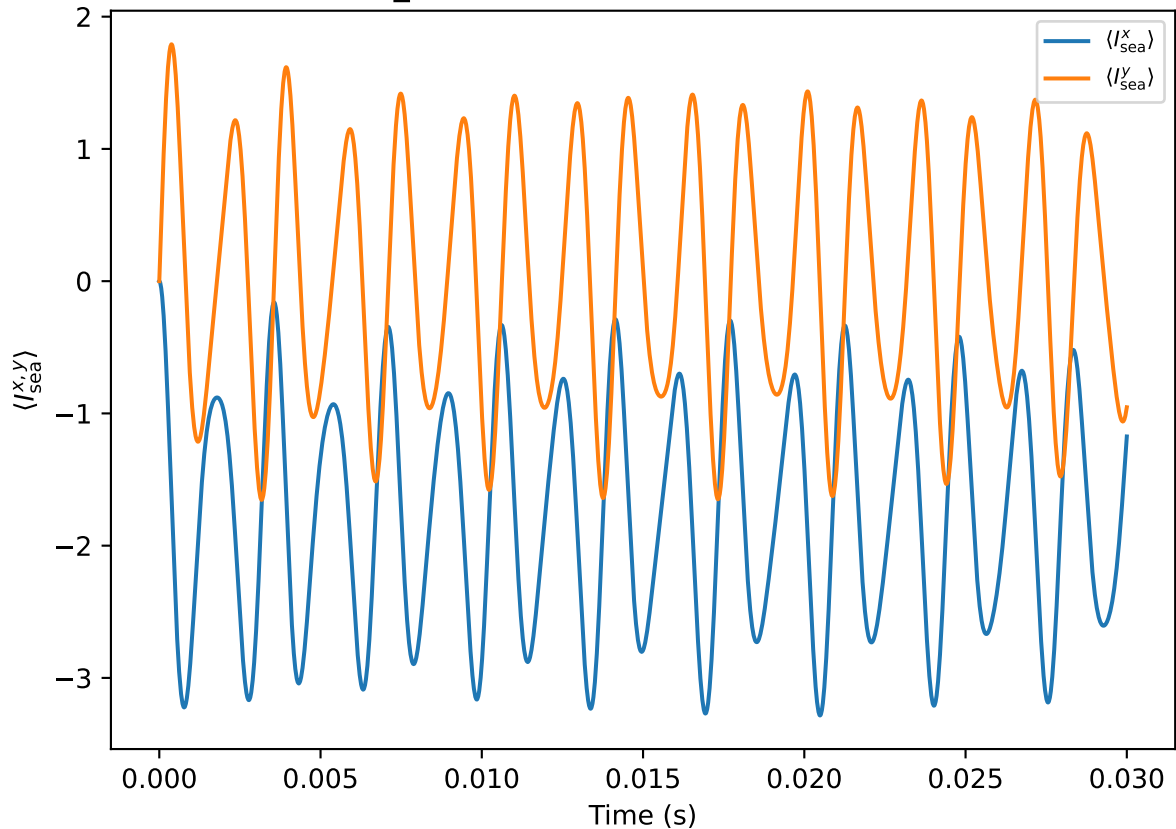
$\delta_A = +625.0$  Hz



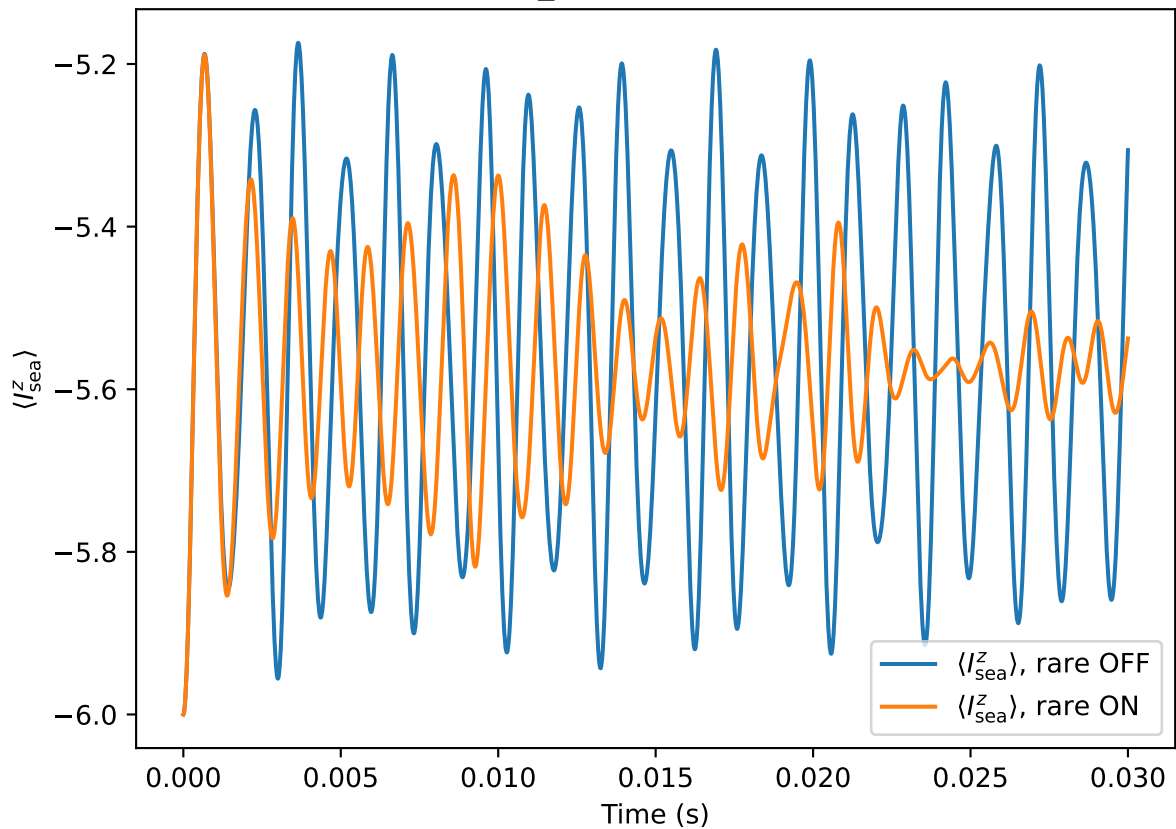
$\delta_A = +625.0$  Hz (pseudo  $T_1$  envelope)



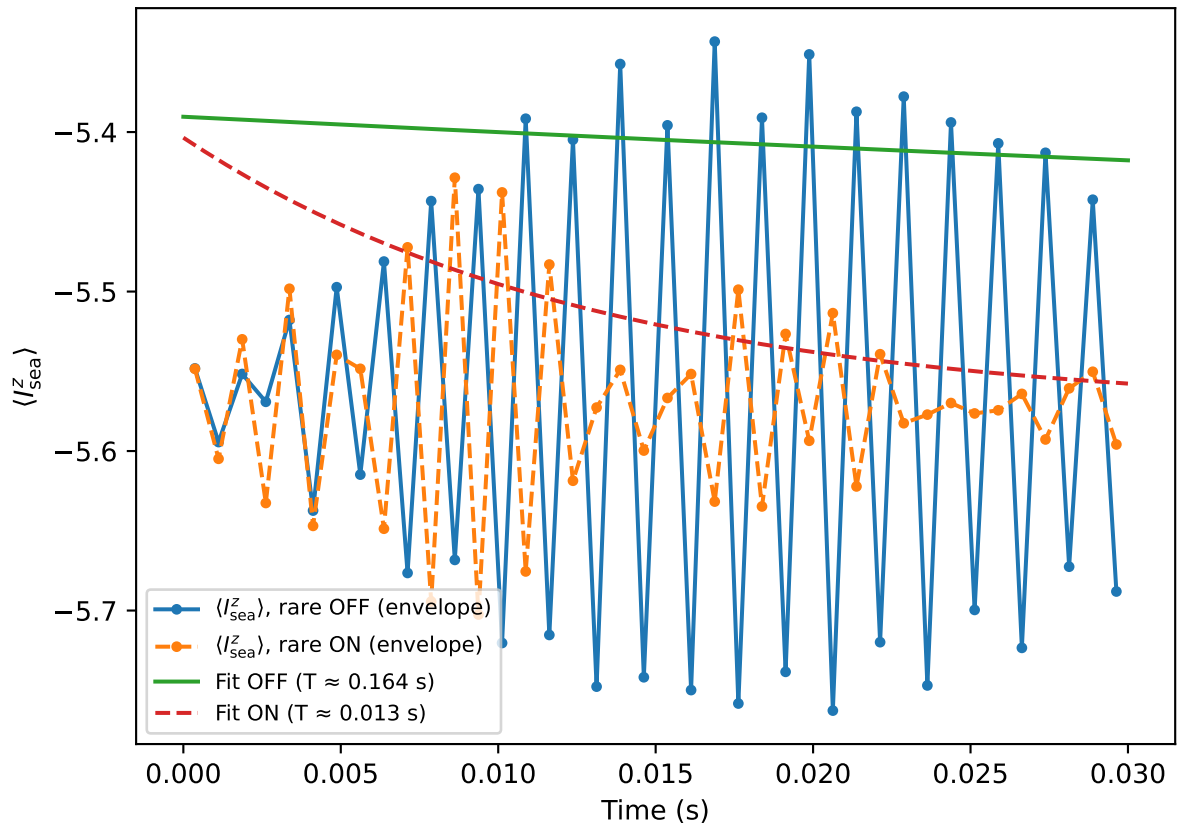
$\delta\_A = +625.0$  Hz (rare drive OFF)



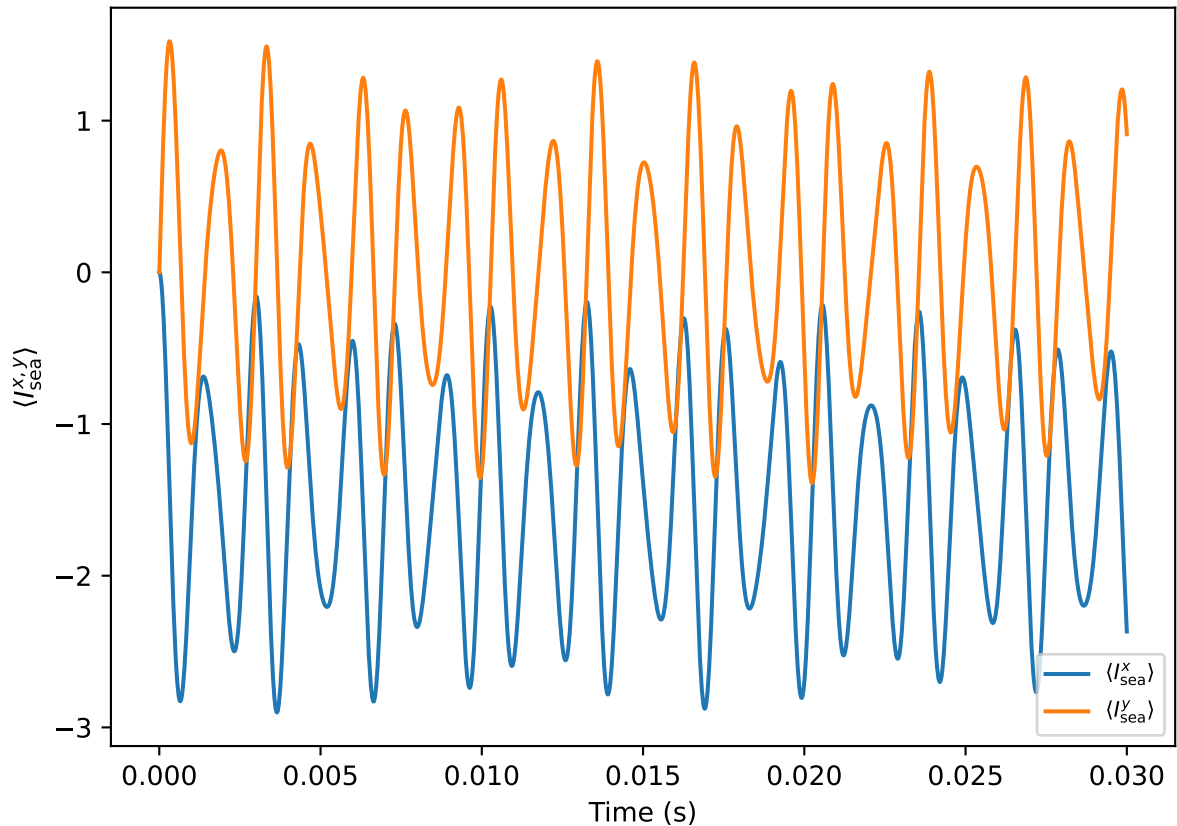
$\delta_A = +750.0$  Hz



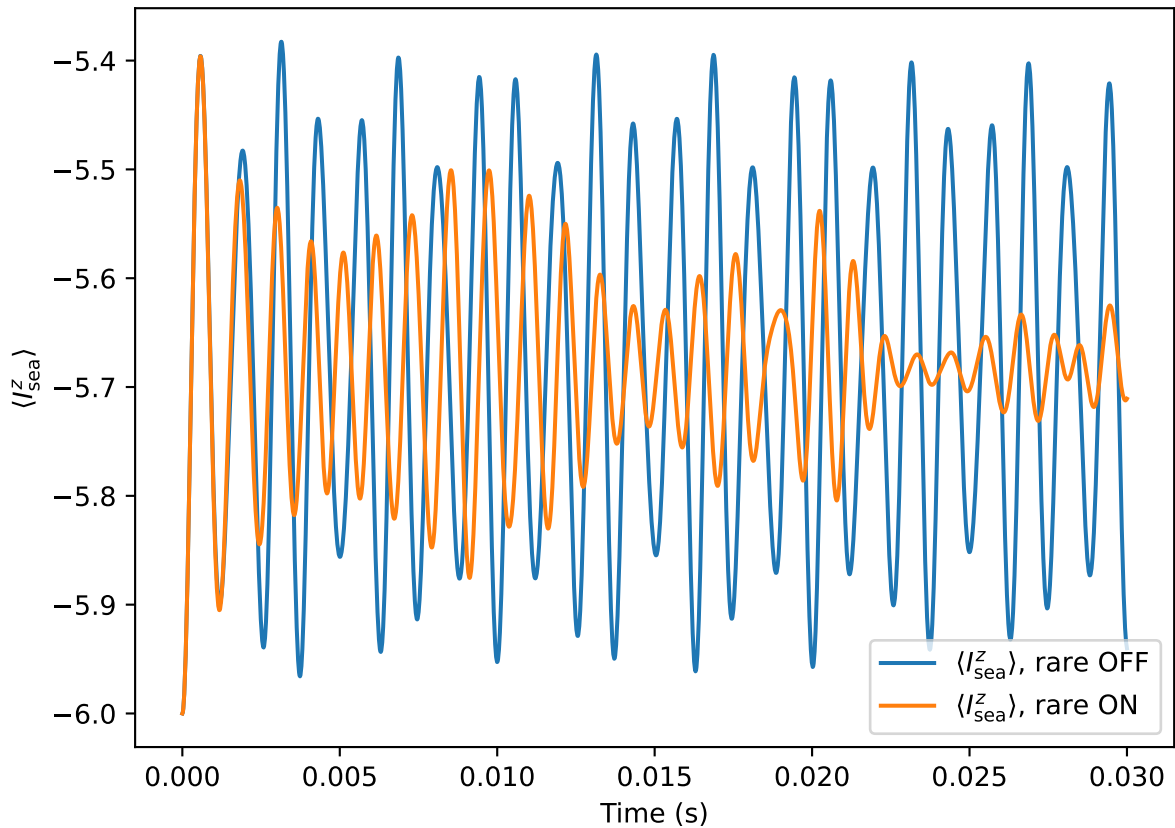
$\delta_A = +750.0$  Hz (pseudo  $T_1$  envelope)



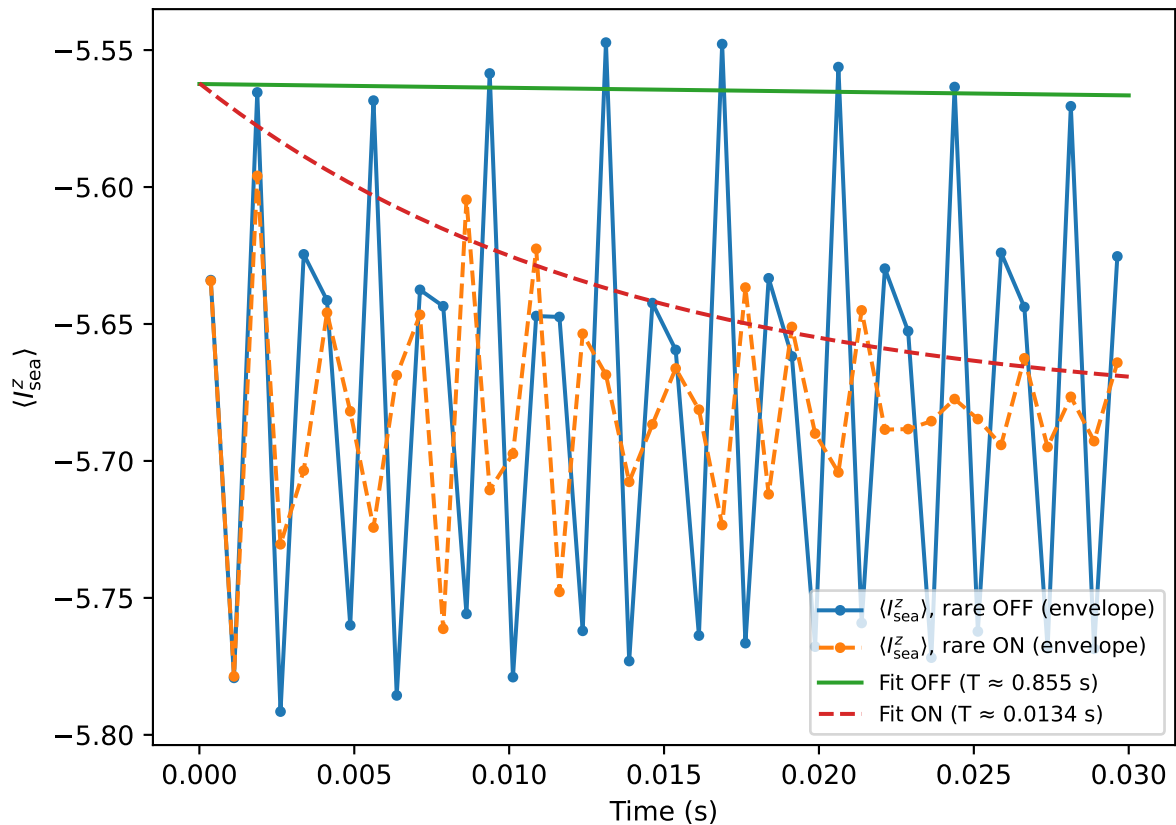
$\delta\_A = +750.0$  Hz (rare drive OFF)



$\delta_A = +875.0$  Hz

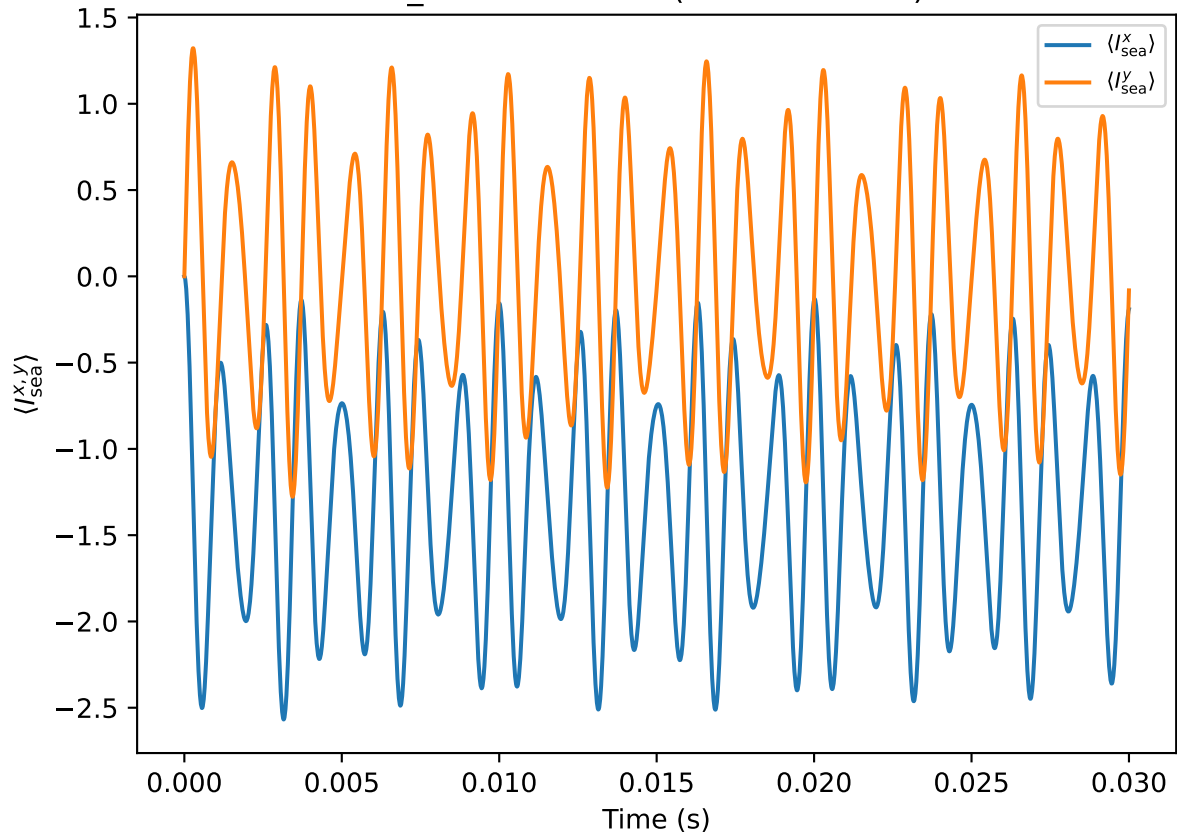


$\delta_A = +875.0$  Hz (pseudo  $T_1$  envelope)

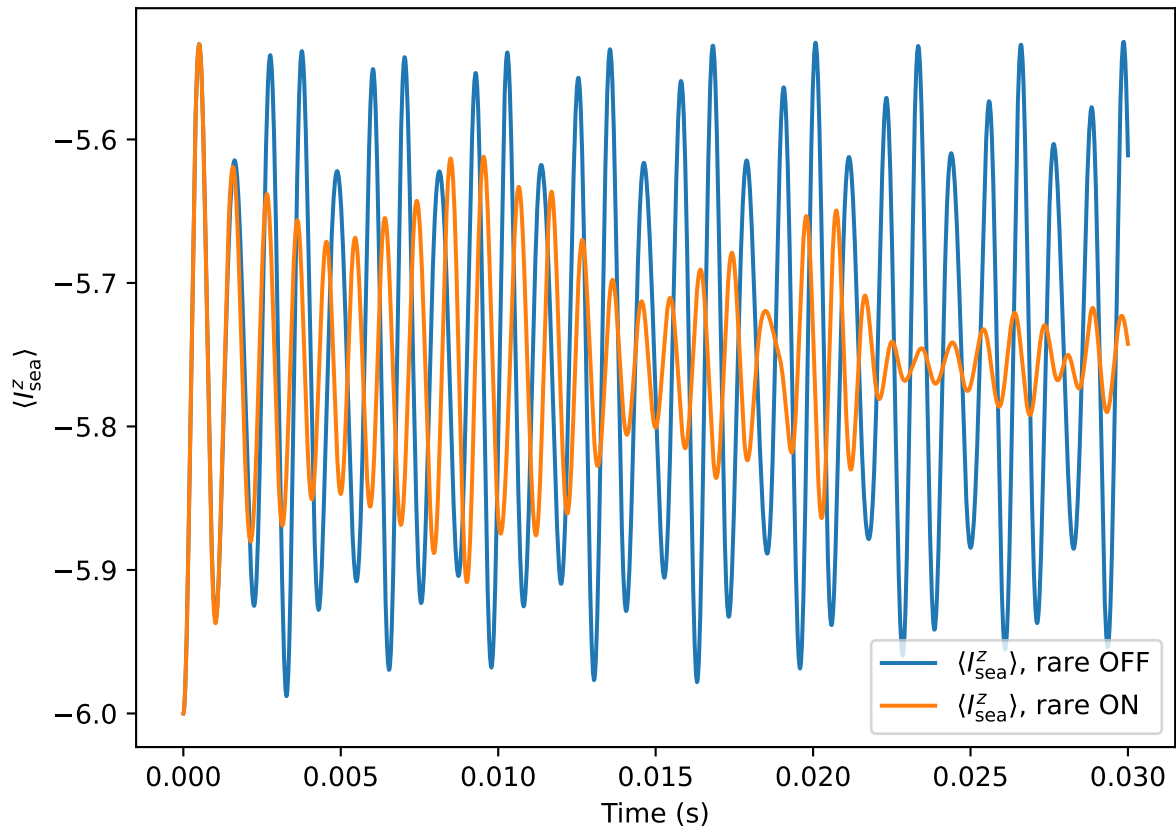




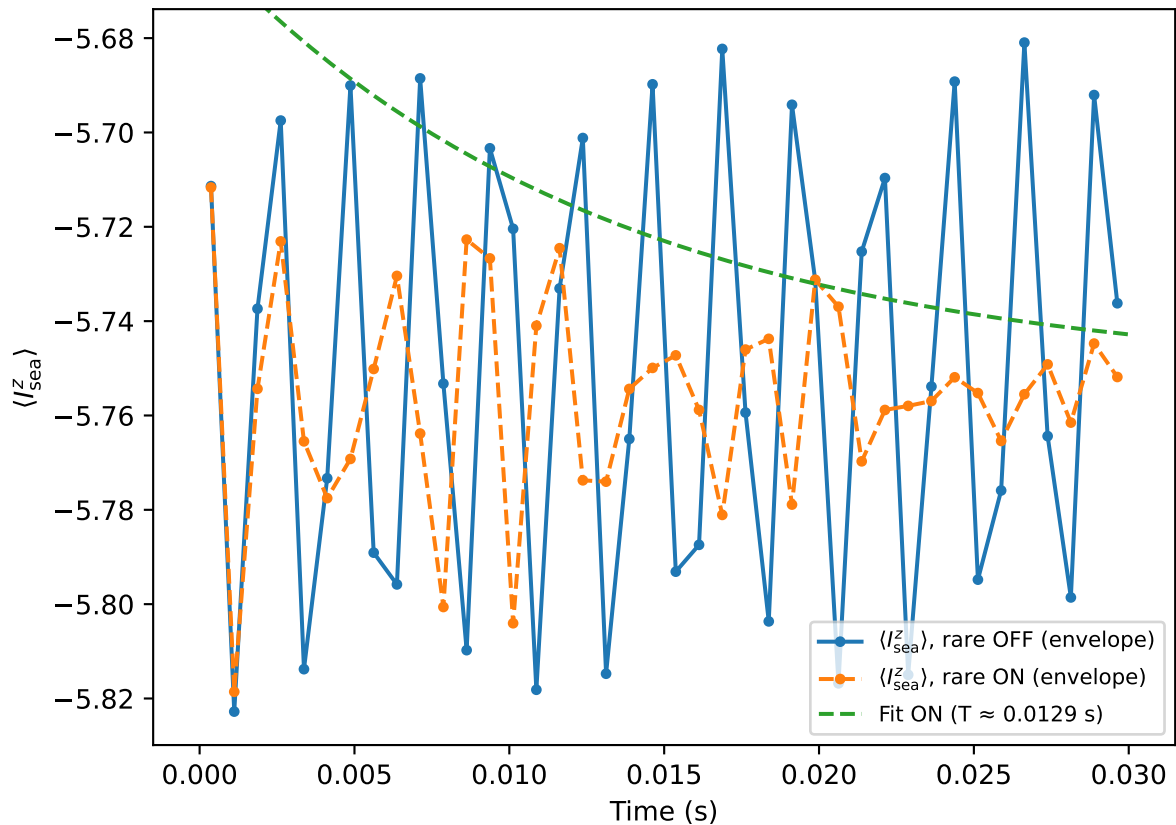
$\delta_A = +875.0$  Hz (rare drive OFF)



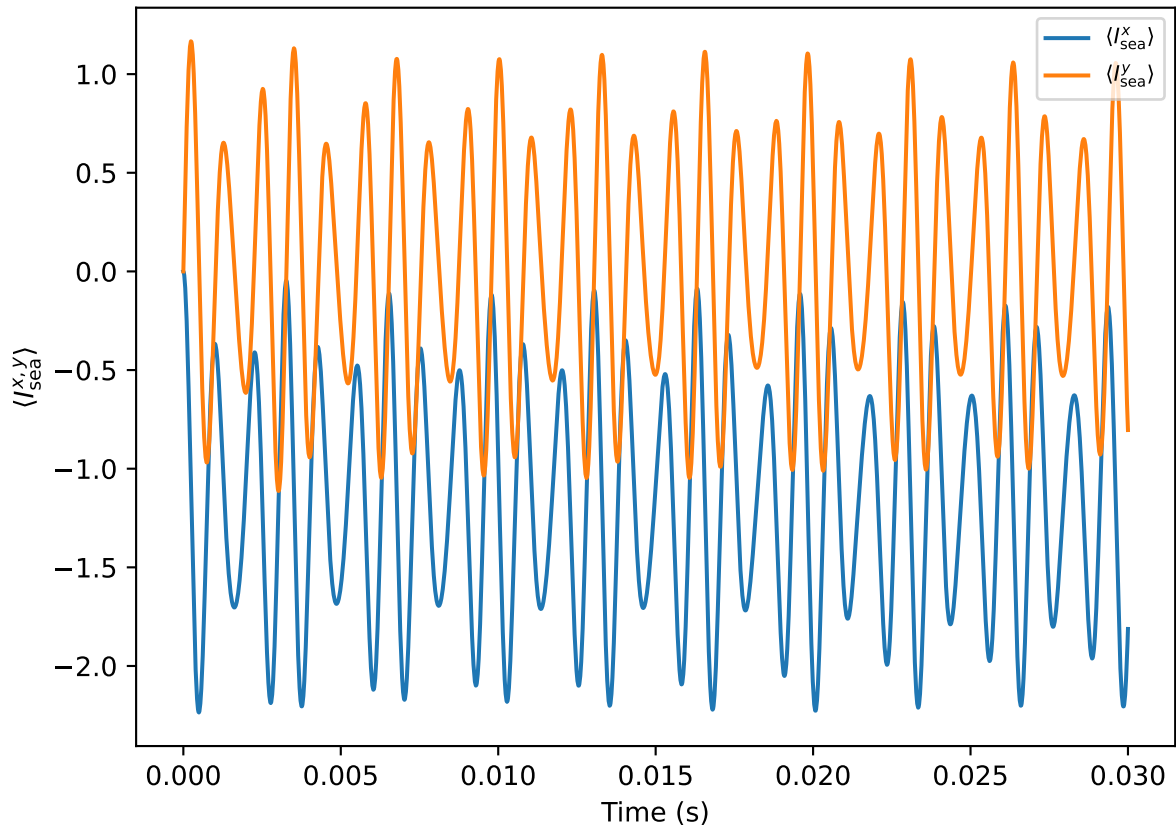
$\delta_A = +1000.0$  Hz



$\delta_A = +1000.0$  Hz (pseudo  $T_1$  envelope)



$\delta\_A = +1000.0$  Hz (rare drive OFF)



T-like decay fits from  $\langle I^z_{\text{sea}} \rangle$  traces

delta_Hz	T_Iz_sea_off	T_Iz_sea_on
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+0.0	0.0174	0.00895
+125.0	0.0171	0.00919
+250.0	0.0244	0.0181
+375.0	0.0295	0.0113
+500.0	0.378	0.0132
+625.0	0.127	0.0135
+750.0	0.164	0.013
+875.0	0.855	0.0134
+1000.0	NA	0.0129