

**[nex69] Relaxation function with uniform continued-fraction coefficients.**

Find closed-form expressions for the relaxation function  $c_0(z)$ , the spectral density  $\Phi_0(\omega)$ , and the fluctuation function  $C_0(t)$ , of some physical system if we know that the (infinite) sequence of continued-fraction coefficients is

(a) uniform:  $\Delta_1 = \Delta_2 = \dots = \frac{1}{4}\omega_0^2$ ,

(b) almost uniform:  $\Delta_1 = \frac{1}{2}\omega_0^2$ ,  $\Delta_2 = \Delta_3 \dots = \frac{1}{4}\omega_0^2$ .