



# The full Brillouin gain calculation

- Steady state:  $\partial_t = 0$
- Lossy mechanical wave (large  $\gamma_m/\nu_m$ )

$$\begin{aligned}\partial_z P_p &= -G_B P_p P_s - \alpha_p P_p \\ \partial_z P_s &= \pm G_B P_p P_s \mp \alpha_s P_s\end{aligned}$$



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