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POS-13 - Application of coupled mode theory to phase-shift and intensity measurements in optical microresonators

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Coupled mode theory is applied to the analysis of a microsphere cavity whispering gallery mode excited by amplitude modulated light. Expressions are derived for the transmitted and backscattered modulation frequency dependent intensity and phase-shift of the light on resonance. Using these expressions, the resonance lifetime and cavity coupling parameters can be derived from the experimental data.

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