Perturbing the Flap-lag equations to incorporate pitch-lag coupling

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The pitch-lag coupling terms are obtained by perturbation of the *equilibrium equations* with respect to θ and letting $\hat{\theta} = \theta_\zeta \hat{\zeta}$. This yields a lag term in the lag equation, and a lag term in the flap equation. Each term has a component from the structural operator and another from the aerodynamic operator.