he concentrates on the low-frequency aspects of the vehicle's representation (e.g., main and tail rotors, fuselage, aero surfaces, and flight control system), which are more relevant to the flying qualities engineer and to the low-level flight control system designer. Chapter 4 contains topics relative to static stability and trim. Trim equations and natural modes are presented, and a description of the physical meaning of the major stability derivatives is included. This chapter also contains some numerical data that could be used by a (rather hardworking) student for setting up a computer simulator program. Chapter 5 treats dynamic stability and response to controls and disturbances. Chapter 6 is devoted to a rather detailed description of the rationale behind current military specifications, how they came about, and how they should be interpreted in the overall performance analysis of the vehicle. The information contained in this chapter is not available in any other book, and better information can only be found by reading and applying the ADS-33 itself. Chapter 7 is a companion chapter and describes topics relative to flying qualities assessment (including pilot ratings strategies), design of MTEs, flight test setups for flying qualities, influence of visual cues and inceptors, and relationships between flying qualities variation and cues degradation, a very critical issue for performance and safety at the extremes of the operational flight envelope.

In summary, I found Padfield's book unique in many respects, pleasant to read, accurate, and therefore a primary source of information for those interested in the integration between classical flight dynamical properties and flying qualities of rotorcraft. In my opinion, the reader must have a basic background in dynamics and control and in the way a helicopter operates and flies. I would therefore suggest it as a reference/text for a graduate course in the area, as well as a "must have" for practicing engineers.

References

[1]Stevens, B. L., and Lewis, F. L., *Aircraft Control and Simulation*, Wiley-Interscience, New York, 1992.

[2]McRuer, D. T., Ashkenas, G., and Graham, D., *Aircraft Dynamics and Automatic Control*, Princeton Univ. Press, Princeton, NJ, 1973.

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Errata

Strapdown Inertial Navigation Integration Algorithm Design Part 1: Attitude Algorithms

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[J. Guidance 21 (1), pp. 19–28 (1998)]

EQUATIONS (4) and (44) should be corrected as follows:

Equation (4) should read

$$C_{A_2}^{A_1} = I + \frac{\sin\phi}{\phi}(\phi\times) + \frac{(1-\cos\phi)}{\phi^2}(\phi\times)^2$$

Equation (44) should read

$$\frac{1}{2}\int_{t_{l-1}}^{t_l} \left(\Delta\alpha(t) \times \omega_{IB}^{B}\right) \mathrm{d}t = \frac{1}{12}(\Delta\alpha_{l-1} \times \Delta\alpha_l)$$