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驾驶员诱发振荡的研究

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THE RESEARCH ON PILOT INDUCED OSCILLATION

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摘要 | 参考文献 | 相关文章

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摘要 本文根据驾驶员诱发振荡的实质,从闭环控制理论出发,提出了人-机系统数学模型,并在时域内进行了计算。以某歼击教练机为例,与频域法一起作了对比研究。结果表明,时域计算方法不仅直观,物理意义强,而且可以考虑众多的非线性因素,结果可能较为可靠。

关键词： 驾驶员诱发振荡 飞行品质 人-机系统

Abstract： According to the essence of Pilot Induced Oscillation (PIO) and the theory of Closed-loop control, the mathematical model of Pilot-Plane system is set up. Take a fighter trainer as an example, its PIOs are calculated in time-domain, and their results are compared with those obtained from the frequency-domain method. The results show that time-domain method is not only visualized but also is very clear in physical meaning. Moreover a lot of nonlinear elements are also easy to be considered. Its result may be more reliable.

Keywords： polit induced oscillation flying-quality pilot-plane system

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