



## BWB客机经济性相关设计参数的影响分析

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## Analysis of effects of BWB airliner design parameters on its economic profitability

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摘要

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**摘要** 为了分析翼身融合布局客机(BWB, Blended Wing Body)高巡航升阻比和与其匹配的下一代低油耗发动机所带来的经济性收益,通过估算飞机的总体参数和计算飞行性能,以每座公里耗油量为衡量标准,定量分析巡航升阻比和发动机耗油率等相关参数对250座级和450座级的影响;与现有同量级常规布局客机对比分析,估算出BWB系列客机经济性收益的具体数据,并分析座级和航程对BWB客机经济性的影响,得出BWB系列客机发展的趋势和特点,最终综合考虑收益与可实现难度和代价,给出合理的设计参数值。

**关键词:** BWB客机 巡航升阻比 发动机耗油率 每座公里耗油量

**Abstract:** In order to analyze economic profitability due to high cruise L/D and higher engine performance of blended wing body (BWB) airliner, the methods of estimating major parameters and calculating flight performance were imposed. Using fuel flow per capita (Fuel/km/seat) as the weighing standard, quantitative analysis was operated on the effects of cruise L/D and specific fuel consumption on 250-seat and 450-seat airliner; then contrasts BWB airliner family with existing equivalent conventional airliner and the material data of economic profitability was obtained. Moreover, analysis was operated on effects of seats and range. In the end conclusion was made on the trend and characteristic of BWB airliner family development and then considering the balance between benefits and realizing difficulty, the reasonable design parameters are given.

**Keywords:** BWB airliner lift to drag ration at cruise specific fuel consumption fuel flow per capita

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