

Turbofan engine concept with centrifugal compressor stages.

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The paper describes a novel concept of turbofan engine. It is proposed to substitute a long set of axial compressors with 3-4 stages of axi-centrifugals which deliver sufficient compression ratio. A new type of diffusers solves both high weight and high cross section cons of centrifugal stages. The compressed air traveling between compressor stages is efficiently cooled thus the efficiency of compression is improved. The design is perfect for high bypass ratio turbofans both multishaft and/or geared fans.