

45th IAA HISTORY OF ASTRONAUTICS SYMPOSIUM (E4)  
50th Anniversary of Manned Space Flight (1)

Author: Mr. Oleg A. Sokolov  
The British Interplanetary Society, United Kingdom, mail@bis-spaceflight.com

THE 'SPIRAL' PROJECT (1965-1978) – THE FIRST ATTEMPT TO REALISE A 'REAL' MANNED  
SPACEPLANE

**Abstract**

The 'Spiral' project, which was begun in the former Soviet Union (FSU) in 1965, foresaw the development of an orbital aerospace system that should include a small manned shuttle-type spacecraft and a specially developed supersonic (or hypersonic) carrier aircraft from which the spacecraft had to be launched. An assessment of this project is made from the point of view of its relevance to the concept of a 'real' spaceplane. According to this concept, a 'real' spaceplane is one which has to use the Earth's atmosphere both for ascent (for aerodynamic support and as a source of oxygen) and for descent (for aerodynamic braking and gliding flight before landing). The supposition is made that the 'Spiral' system would have corresponded completely to this concept if the project had not been terminated for certain non-technological reasons. The proposed designs of the 'Spiral' system's main components, the spaceplane itself and its carrier aircraft are briefly described. The process of this project's realization included the creation of scaled demonstrators (BORs) and of a full-scale manned prototype for in-atmospheric tests. Their flight tests were carried out during the period of 1969-1978. The reminiscences of the author on his participation in the BOR flight tests are presented. The supposed reasons for the project termination are mentioned.