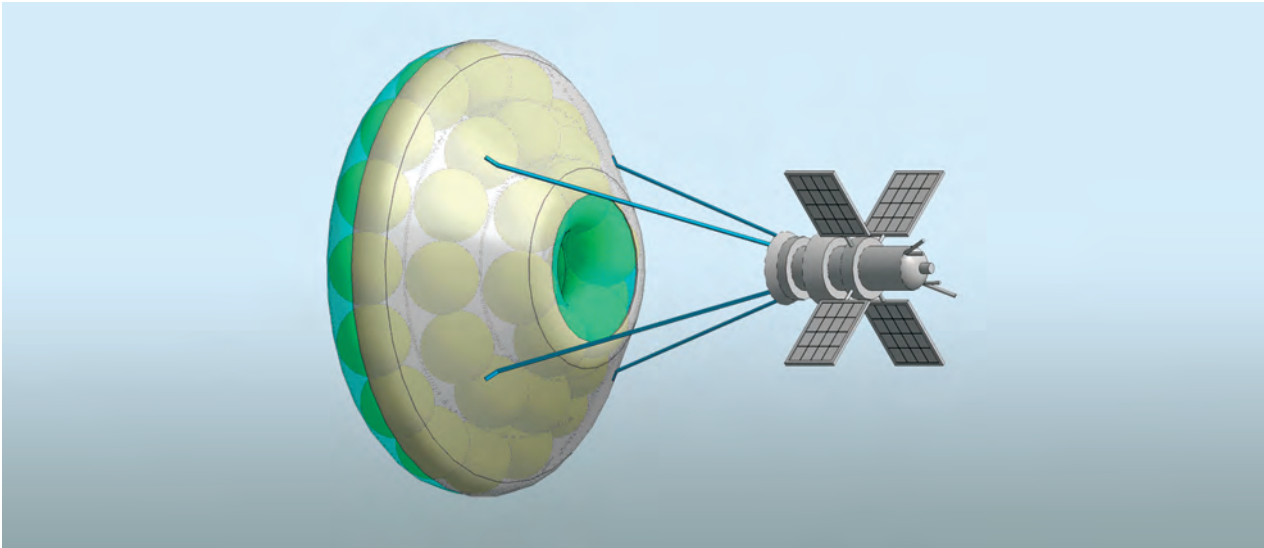


## AERODYNAMIC SYSTEMS FOR SPACECRAFT DEORBITING



### Areas of Application

The system is to be used for deorbiting waste spacecraft, large modular space structures, and uncooperative fragments of space debris

### Specification

The system contains thin-walled conic film and inflatable ring toroidal envelopes in which inflatable thin-walled spherical film envelopes are placed. If waste spacecraft needs to be deorbited, the system is deployed with aerodynamic resistance increasing and the debris carried away to dense atmosphere. The failure of 40% envelopes does not impair the system working capacity

### IPR Protection

IPR3

### Advantages

As compared with counterparts, this system enables to reduce the overall weight of deorbiting system from 893 kg to 205 kg and the aerodynamic element diameter from 180 m to 34 m. The use of conical aerodynamic trap raises the effectiveness of capture and deorbiting of uncooperative fragments of space debris, which extends the service life of the system

### Stage of Development. Suggestions for Commercialization

IRL3, TRL3  
Patent license for design solutions for deorbiting waste spacecraft, large modular space structures, and uncooperative space debris

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