

The amount of space debris in orbit is increasing, and various initiatives are being undertaken to control it. In this paper, we present an active method of removing space debris that is 1 cm in size. It is based on creating a small cloud of dust particles directly in space. The goal is to hit the debris at a high relative velocity, which will slow it down due to the drag force. That allows us to reduce the debris' orbital lifetime from hundreds of years to less than 25 years. We estimate that with a supply of 100 kg dust particles, it would be possible to remove over a thousand pieces of debris.