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Space systems — Prevention of break-up of unmanned spacecraft

Systèmes spatiaux — Prévention de l'éclatement des navettes sans pilote



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

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Introduction

An ever-increasing number of man-made items are orbiting the Earth and bring with them ever-increasing risk of collisions. This can have implications on the operational requirements of both manned and unmanned spacecraft.

One potential source of space debris is the break-up of unmanned spacecraft both during and after the end of their operational lives. This break-up could be due either to external collisions or to internal factors caused by the existence of stored energy sources onboard the spacecraft. A cloud of debris from a single spacecraft having broken up poses a significantly greater threat of collision than the original spacecraft.

This International Standard defines the requirements to reduce the probability of a spacecraft breaking up, both during and after its operational life. It also defines the requirements for passivation of the spacecraft, which is the process by which all sources of stored energy are removed.