
**Space systems — Dynamic and static
analysis — Exchange of mathematical
models**

*Systèmes spatiaux — Analyse dynamique et statique — Échange de
modèles mathématiques*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

This document is a preview generated by EVS

© ISO 2005

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Terms, definitions, symbols, and abbreviated terms	1
4 General description of models	3
5 General requirements	3
6 Condensation methods	5
7 Model delivery checks	8
8 Requested outputs.....	10
9 Size limitations	10
10 Delivery formats	10

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14954 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 14, *Space systems and operations*.

Space systems — Dynamic and static analysis — Exchange of mathematical models

1 Scope

This International Standard normalizes the exchange of mathematical models between payload contractors (PLC) and launch service providers (LSP). It identifies standard methods for modelling the dynamic behaviour of both launch vehicles (LV) and payload (PL), particularly when they are coupled prior to launch and during the early moments of the launch phase.

In standard mode, the delivered models represent dynamic and static behaviour at the launcher interface. The requirements provided in this International Standard are the minimum necessary for dynamic coupled analysis. They may not be sufficient for stress analysis. The payload models are full integrated models from the different parts of the payload under the payload contractor authority, including also their own adapter to LV interface in the case that the adapter is a part of the payload.

This International Standard does not include the validation of PL models.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 646, *Information technology — ISO 7-bit coded character set for information interchange*

3 Terms, definitions, symbols, and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1

payload

system that is launched by a launch vehicle

EXAMPLES Satellite, spacecraft, space probe.

3.1.2

payload contractor

organization in charge of a payload

3.1.2

launcher service provider

organization that conducts a launch with a launch vehicle