| Title | Kind | Author(s) | Year | Ref | Domain | Inspection | Analysis | Demonstration | Test | Analogy (or Similarity) | Simulation | Sampling | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code Complete (1st Ed) | Book | McConnnell, S. | 1993 | [McConnell 1993] | Software | X | X | X | X | | | | Users the general term Review which includes Inspection and Walkthrough. Also incudes Checklists |
| Systems Engineering Coping with Complexity | Book | Stevens, R. Brook, P. Jackson, K. & Arnold, S. | 1998 | [Stevens et al 1998] | Systems | X | | | | | | | Also includes Reviews, Walkthroughs and Audits |
| Effective Requirments Practices | Book | Young, R. | 2001 | [Young 2001] | Requirments | X | X | | X | | X | | Inspections, Defect Estimation & Tracking, Audits, Walkthroughs, Testing, Simulation |
| Introduction to Systems Analysis and Design (5th Ed) | Book | Hawryszliewycz, I. | 2001 | [Hawryszliewycz 2001] | Software (IT) | X | X | | | | | | Users the general term Review which includes Inspection and Walkthrough |
| Peer Reviews in Software: A Practical Guide | Book | Wiegers, K. | 2002 | [Wiegers 2002] | Software | X | X | | | | | | Uses the general term Review which includes Inspection, Team Review, Walkthrough, Pair Programming, Passaround & Ad Hoc Meetings |
| Requirments by Collaboration: Workshops for Defining Needs | Book | Gottesdiener, E. | 2002 | [Gottesdiener 2002] | Requirments | X | X | | | X | | | Also includes Reviews, Walkthroughs and Checklists |
| Process Quality Assurance for UML-based Projects | Book | Unhelkar, B. | 2003 | [Unhelkar 2003] | Software | X | X | | X | | | | Also includes Walkthroughs, Reviews, Audits, Checklists, Modelling Standards & Quality Metrics |
| Project Management for Information Systems (4th Ed) | Book | Cadle, J. & Yeates, D. | 2004 | [Cadle & Yates 2004] | Software (IT) | X | | | X | | | | Also includes, Self-Checking, Peer review, Management Review, External Review & Walkthrough |
| Software Measurment and Estimation: A Practical Approach | Book | Laird, L & Brennan, C. | 2006 | [Laird & Brennan 2006] | Software | | X | | | | | X | Includes measures for Size, Complexity, Effort, Defects, Reliability and Progress |
| Modern Methods of Systems Engineering | Book | Jenney, J. Gangl, M. Kwolek, R. Melton, D. Ridenour, N. & Coe, M. | 2010 | [Jenney et al 2010] | Systems | X | X | X | X | X | X | | Informal and Formal Reviews, Patrerns (Analogy) |
| Verification and Validation in Systems Engineering: Assesing UML/SysML Design Models | Book | Debbabi, M. Hassaine, F. Jarraya, Y. Soeanu, A. & Alawneh, L. | 2010 | [Debbabi et al 2010] | Systems | X | X | X | X | X | X | | Informal / Formal, Static & Dynamic. Review, Inspection, Testing, Reference Model EquivaInce Checking, Theorem Proving, |
| A Primer for Model-Based Systems Engineering (2nd Ed) | Book | Long, D & Scott, Z | 2011 | [Long & Scott 2011] | Systems | | | | | | | | |
| A Practical Guide to SysML (2nd Ed) | Book | Friedenthal, S. Moore, A & Steiner, R. | 2012 | [Friedenthal et al 2012] | Systems | X | X | X | | | X | | Describes the concepts of Descriptive and Analytical Models, the latter having subtypes of Static and Dynamic |
| SysML for Systems Engineering (2nd Ed) | Book | Holt, J. & Perry, S. | 2013 | [Holt & Perry 2013] | Systems | X | X | | X | | | | Refrences a 'review activity' and introduces the concept of both a 'testable' and 'tracable' model element |
| INCOSE Systems Engineering Handbook (4th Ed) | Book | Walden, D. Roedler, G. Forsberg, K. Hamelin, R. & Shortell, T. | 2015 | [INCOSE 2015] | Systems | X | X | X | X | X | X | X | |
| Modelling and Simulation-Based Systems Engineering Handbook | Book | Gianni, D. D'Ambrogio, A & Tolk, A. | 2015 | [Gianni et al 2015] | Systems | | X | | | | | | Formal Methods, Reference Models |
| Systems Engineering Simplified | Book | Cloutier, R. Baldwin, C. & Bone, M. | 2015 | [Cloutier el al 2015] | Systems | X | X | X | X | | | | References [Mil-Std 961E 2013] |
| Agile Systems Engineering | Book | Douglass, B. | 2016 | [Douglass 2016] | Systems | X | | X | | | X | | |
| Behavioural Models | Book | Kunze, M. & Weske, M. | 2016 | [Kunze et al 2016] | Systems | | X | | | | X | | Model Checking |
| Expanded Guidance for NASA Systems Engineering. Vol 1: Systems Engineering Practices | Book | NASA | 2016 | [NASA 2016 B] | Systems | X | X | X | X | | X | | Review, Review Boards, Audits, Independent Assesment, Peer Review |
| Foundations for Model-based Systems Engineering | Book | Holt, J. Perry, S. & Brownsword, M. | 2016 | [Holt et al 2016] | Systems | X | X | | X | X | | | Includes the concepts of Model Review and Assesment plus dedicted patternsn for Analysis and Test |
| NASE Systems Engineering Handbook (Rev 2) | Book | NASA | 2016 | [NASA 2016 A] | Systems | X | X | X | X | | | | |
| Model-Based Verification: An Engineering Practice | Paper | Gluch, D. Comella-Dorda, S. Hudak, J. Lewis, G. Walker, J. Weinstock, C. & Zubrow, D. | 2002 | [Gluch et al 2002] | Software | X | X | | | | | | Includes Model Checking |
| Exploiting Inspection: Some New Practices And Some Reminders | Paper | Gilb, T. | 2003 | [Gilb 2003] | Systems | X | X | | X | | | X | Focus on the use of Inspection for "any technical documention". Includes the use of Sampling |
| Model-Based Verification And Validation Of Properties | Paper | Engels, G. Küster, J. Heckel, R. & Lohmann, M. | 2003 | [Engels et al 2003] | Software | | X | | X | | | | Model Checking, Theorem Proving, Testing |
| Validating Specifications For Model-Based Testing | Paper | Koopman, P. Achten, P. & Plasmeijer, R. | 2008 | [Koopman et al 2008] | Systems | X | X | X | X | | X | | Inspection/Reviews, Model Checking, Simulation |
| Model-Based Verification Of Embedded Software | Paper | Shokry, H. & Hinchey, M. | 2009 | [Shokry & Hinchey 2009] | Software | X | X | | X | | X | | Inspection, Testing, Static Analysis, X in-the-loop, Simulatiom |
| Early Model-Based Verification Of Automotive Control System Implementation | Paper | Shahbakhyi, M. Li, J. & Hedrick, K. | 2012 | [Shahbakhyi et al 2012] | Systems | | X | | X | | X | | Software in-the-loop |
| MBSE and V&V: A Tool-equipped Method for combining Various V&V strategies | Paper | Nastov, B. Chapurlat, V. Dony, C. & Pfister, F. | 2012 | [Nastov et al 2012] | Systems | | | | | | | | |
| Model-Based Verification And Validation Of Spacecraft Avionics | Paper | Khan, M. Sievers, M. & Standley, S. | 2012 | [Khan, M et al 2012] | Systems | | | | | | | | |
| Model-Based Verification And Validation Of Safety-Critical Embedded Real-Time Systems: Formation And Tools | Paper | Khan, A. Kham, Z. & Weigup, Z. | 2013 | [Khan, A et al 2013] | Systems | X | X | | X | | X | | Testing, X in-the-loop, Simulation, Reviews, Walkthroughs, Inspections, Static Analysis, Model Checking. |
| Documents Are An Essential Part Of Model Based Systems Engineering | Paper | Logan, P. Harvey, D. & Spencer, D. | 2014 | [Logan et al 2014] | Systems | | | | | | | | |
| Model Verification & Validation and Model Based Systems Engineering: Towards executable DSML | Paper | Nastov, B. Chapurlat, V. Dony, C. & Pfister, F. | 2014 | [Nastov et al 2014] | Systems | | | | | | | | |
| Utilizing MBSE Patterns to Accelerate System Verification | Paper | Cook, D. & Schindel, W. | 2015 | [Cook & Schindel 2015] | Systems | | | | | | | | |
| Model Verification For System Design Of Complex Mechatronic Products | Paper | Chen, R. Liu, Y. Zhao, J & Ye, X. | 2016 | [Chen et al 2016] | Systems | | | | | | | | |
| Towards the Automation of Model-Based Design Verification | Paper | Schamai, W. Albarello, N. Helle, P & Buffoni, L. | 2016 | [Schamai et al 2016] | Systems | | X | X | X | | X | | Analysis, Simulation, Model Checking |
| Towards V&V suitable Domain Specific Modeling Languages for MBSE: A Tooled Approach | Paper | Nastov, B. Chapurlat, V. Dony, C. & Pfister, F. | 2016 | [Nastov et al 2016] | Systems | | | | | | | | |
| Verifying SysmI Activity Diagrams Using Formal Transformation To Petri Nets | Paper | Huang, E. McGinnis, L. & Mitchell, S. | 2016 | [Huang et al 2016] | Systems | | | | | | | | |
| Validation and Verification of MBSE-Compliant CubeSat Reference Model | Paper | Kaslow, D. & Madni, A. | 2017 | [Kaslow & Madni 2017] | Systems | | | | | | | | |
| An Apporach: SysML-based Automated Completeness Evaluation of the System Requirements Specification | Paper | Bankauskaite, J & Morkevicius, A. | 2018 | [Bankauskaite & Morkevicius 2018] | Systems | | X | | | | | | Model Metrics |
| Applying Standard Independent Verification And Validation Techniques Within An Agile Framework: Identifying And Reconciling Incompatibilities | Paper | Dabney, J. & Arthur, J. | 2018 | [Dabney & Arthur 2018] | Systems | | | | | | | | |
| SysML Models Verification And Validation In An Industrial Context: Challenges & Experimentation | Paper | Baduel, R. Chami, M. Bruel, J. & Ober, I. | 2018 | [Baduel et al 2018] | Systems | | | | | | | | |
| Verification and Validation of a new type of Railway Signal using MBSE and Simulation | Paper | Stevenson, D. Vine, K. & Towers, J. | 2018 | [Stevenson et al 2018] | Systems | X | X | X | X | | X | | |
| A Practical Guide to Statistical Verification | Paper | Kolozs, J. & Black, C. | 2019 | [Kolozs & Black 2019] | Systems | | X | | | | | X | |
| Questioning Integration Of Verification In Model-Based Systems Engineering: An Industrial Perspective | Paper | Laing, C. David, P. Blanco, E. & Dorel, X. | 2019 | [Laing et al 2019] | Systems | | | | | | | | |

| Type | Formality | Effectivness | Cost | Characersitic | Source(s) | Notes |
|---|---|---|---|---|---|---|
| Inspection (Systems) | N/A | | | N/A | | Consisdered the supertype in Systems Engineering and aimed at the System of Interest |
| Inspection (Software) | High | High | High | Formal process and roles | | A substype of Review in Software and Requirments aimed at requirments, designs, models and code |
| Review (Systems) | N/A | Moderate | | | | A subtype of Inspection in Systems Engioneering aimed at 'process artifacts' |
| Review (Software) | N/A | | | | | Consisdered the supertype in Software and Requirments |
| Peer-Review | Variable | - | - | Carried out by peers of the author / aretefact owner | | Effectivness and cost will vary on formality |
| Walkthrough | Medium | Moderate | Medium | | | |
| Audit | Very High | High | High | | | |
| Pair-Programming | Medium | High | Medium | Continous review by having two people working on the same artefact together | | |
| Passaround | Low | Moderate | Low | | | |
| Self-Check | Low | Low | Low | | | |
| Management Review | Variable | - | - | Carried out by management within organisation | | Effectivness and cost will vary on formality |
| External Review | Variable | - | - | Coarried out by 3rd party | | Effectivness and cost will vary on formality |