

| <div> <div>EcosimPro/PROOSIS SIMULATION TOOL VIDEOS</div> <div>www.ecosimpro.com</div> </div> <div>(29-July-2020)</div> |                                                                                                                                 |
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| YouTube CHANNEL                                                                                                         | VIDEO LINK                                                                                                                      |
| EcosimPro/PROOSIS channel in YouTube                                                                                    | <a href="https://www.youtube.com/channel/UCyglm_rxC-XKujZngy7VUFA">https://www.youtube.com/channel/UCyglm_rxC-XKujZngy7VUFA</a> |
| <b>GENERAL</b>                                                                                                          |                                                                                                                                 |
| Overview of the the EcosimPro-PROOSIS applications                                                                      | <a href="https://youtu.be/E29rQv4oJw8">https://youtu.be/E29rQv4oJw8</a>                                                         |
| EcosimPro-PROOSIS toolkits applied to aerospace and energy problems                                                     | <a href="https://www.youtube.com/watch?v=jePfnl0LE80">https://www.youtube.com/watch?v=jePfnl0LE80</a>                           |
| General presentation of EcosimPro                                                                                       | <a href="https://www.youtube.com/watch?v=bfA8z95LJHE">https://www.youtube.com/watch?v=bfA8z95LJHE</a>                           |
| 3D Visualisation in EcosimPro-PROOSIS                                                                                   | <a href="https://www.youtube.com/watch?v=0K1zbvH7bWA&amp;t=153s">https://www.youtube.com/watch?v=0K1zbvH7bWA&amp;t=153s</a>     |
| Automatic testing tool in EcosimPro-PROOSIS                                                                             | <a href="https://www.youtube.com/watch?v=Sk0ISy234zw">https://www.youtube.com/watch?v=Sk0ISy234zw</a>                           |
| <b>SIMULATION TOOLIKS</b>                                                                                               |                                                                                                                                 |
| ASYST: Aircraft SYstems Simulation Toolkit                                                                              | <a href="https://youtu.be/Zb3Plpt8HTA">https://youtu.be/Zb3Plpt8HTA</a>                                                         |
| CRYOLIB: Modelling cryogenic systems                                                                                    | <a href="https://www.youtube.com/watch?v=V3DrMCCSFek">https://www.youtube.com/watch?v=V3DrMCCSFek</a>                           |
| ECLSS: Environmental Control System and Life Support toolkit                                                            | <a href="https://www.youtube.com/watch?v=ZxUKuuget9o&amp;t=130s">https://www.youtube.com/watch?v=ZxUKuuget9o&amp;t=130s</a>     |
| ESPSS: Modelling Space Propulsion Systems with EcosimPro-ESPSS                                                          | <a href="https://youtu.be/i7AYWptXJBE">https://youtu.be/i7AYWptXJBE</a>                                                         |
| FLUIDAPRO: Modelling fluid systems in EcosimPro-PROOSIS                                                                 | <a href="https://www.youtube.com/watch?v=7Top3u6xCwM">https://www.youtube.com/watch?v=7Top3u6xCwM</a>                           |
| <b>STEP-BY-STEP MANUAL (Version 6)</b>                                                                                  |                                                                                                                                 |
| 1. Step-by-Step. How to open the program                                                                                | <a href="https://youtu.be/ncjKbLL4WxE">https://youtu.be/ncjKbLL4WxE</a>                                                         |
| 2. Step-by-Step. How to create a workspace                                                                              | <a href="https://youtu.be/NxoTks7ITwo">https://youtu.be/NxoTks7ITwo</a>                                                         |
| 3. Step-by-Step. How to work graphically                                                                                | <a href="https://youtu.be/vo5g4zvsKHw">https://youtu.be/vo5g4zvsKHw</a>                                                         |
| 4. Step-by-Step. How to code a component                                                                                | <a href="https://youtu.be/6rk9vbSiPVs">https://youtu.be/6rk9vbSiPVs</a>                                                         |
| 5. Step-by-Step. How to create a partition and experiment                                                               | <a href="https://youtu.be/p_UsSAiETiY">https://youtu.be/p_UsSAiETiY</a>                                                         |
| 6. Step-by-Step. How to encapsulate a model into a deck                                                                 | <a href="https://youtu.be/BXmJrvJ1JbE">https://youtu.be/BXmJrvJ1JbE</a>                                                         |
| 7. Step-by-Step. How to simulate a model                                                                                | <a href="https://youtu.be/FbGx1FTiPXU">https://youtu.be/FbGx1FTiPXU</a>                                                         |
| 8. Step-by-Step. Graphical simulation tool                                                                              | <a href="https://youtu.be/FnPIN5XDpqM">https://youtu.be/FnPIN5XDpqM</a>                                                         |
| 9. Step-by-Step. Simulation from the schematics tool                                                                    | <a href="https://youtu.be/FQ3ceDtBCqk">https://youtu.be/FQ3ceDtBCqk</a>                                                         |
| 10. Step-by-Step. Generating simulation reports                                                                         | <a href="https://youtu.be/lfpayPuWccY">https://youtu.be/lfpayPuWccY</a>                                                         |
| 11. Step-by-Step. Simulation from Excel                                                                                 | <a href="https://youtu.be/ih76h8zvlH4">https://youtu.be/ih76h8zvlH4</a>                                                         |
| 12. Step-by-Step. Connection with MS VC++                                                                               | <a href="https://youtu.be/aTOcl581UUU">https://youtu.be/aTOcl581UUU</a>                                                         |
| 13. Step-by-Step. Connection with Matlab and Simulink                                                                   | <a href="https://youtu.be/TAsCjntB7II">https://youtu.be/TAsCjntB7II</a>                                                         |
| 14. Step-by-Step. Connection with FMI-FMU standard                                                                      | <a href="https://youtu.be/MelJOskKT7s">https://youtu.be/MelJOskKT7s</a>                                                         |
| 15. Step-by-Step. Connection with OPC-UA standard                                                                       | <a href="https://youtu.be/iWPtCP4GpXo">https://youtu.be/iWPtCP4GpXo</a>                                                         |
| <b>MODELLING EXAMPLES</b>                                                                                               |                                                                                                                                 |

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| Modelling a turbojet in PROOSIS                                                                         | <a href="https://www.youtube.com/watch?v=9RyCuiG-YZk">https://www.youtube.com/watch?v=9RyCuiG-YZk</a> |
| Modelling and three body problem in EcosimPro                                                           | <a href="https://www.youtube.com/watch?v=zivy6s3Yc_A">https://www.youtube.com/watch?v=zivy6s3Yc_A</a> |
| Using the boundary selection wizards in EcosimPro-PROOSIS                                               | <a href="https://www.youtube.com/watch?v=T1Jkkwd1zm4">https://www.youtube.com/watch?v=T1Jkkwd1zm4</a> |
| Simulating sledge slicing by ski track in EcosimPro-PROOSIS                                             | <a href="https://www.youtube.com/watch?v=4EpP3z9G5oY">https://www.youtube.com/watch?v=4EpP3z9G5oY</a> |
| Simulating a robotic arm in EcosimPro                                                                   | <a href="https://www.youtube.com/watch?v=IBSv-S7rwMM">https://www.youtube.com/watch?v=IBSv-S7rwMM</a> |
| <b>EXAMPLES FROM BOOK "Introduction to Modelling and Simulation with EcosimPro" (F. Vazquez et al.)</b> |                                                                                                       |
| Modelling a first order equations system (page 21)                                                      | <a href="https://youtu.be/2-ld-A7Gw9A">https://youtu.be/2-ld-A7Gw9A</a>                               |
| Modelling a parabolic shot (page 35)                                                                    | <a href="https://youtu.be/lICMuv4wCO0">https://youtu.be/lICMuv4wCO0</a>                               |
| Modelling a Van Der Pol oscillator (page 43)                                                            | <a href="https://youtu.be/2-ld-A7Gw9A">https://youtu.be/2-ld-A7Gw9A</a>                               |
| Modelling a bouncing ball (page 47)                                                                     | <a href="https://youtu.be/9phErS2lc3o">https://youtu.be/9phErS2lc3o</a>                               |
| Modelling a mechanical system (page 52)                                                                 | <a href="https://youtu.be/vlPpcHlVnhQ">https://youtu.be/vlPpcHlVnhQ</a>                               |
| Modelling a heater (page 57)                                                                            | <a href="https://youtu.be/wxgR8SIHhnM">https://youtu.be/wxgR8SIHhnM</a>                               |
| Modelling several cyclists (page 60)                                                                    | <a href="https://youtu.be/MiyQoyLpSxo">https://youtu.be/MiyQoyLpSxo</a>                               |
| Modelling a population dynamics (page 64)                                                               | <a href="https://youtu.be/Mc-XdAiMr_E">https://youtu.be/Mc-XdAiMr_E</a>                               |
| Modelling a tank (page 66)                                                                              | <a href="https://youtu.be/uujt7JsuAQ8">https://youtu.be/uujt7JsuAQ8</a>                               |
| Modelling a diode (page 74)                                                                             | <a href="https://youtu.be/jtZ4gDRFJoY">https://youtu.be/jtZ4gDRFJoY</a>                               |
| Modelling a open loop system (page 120)                                                                 | <a href="https://youtu.be/qQkggytTSew">https://youtu.be/qQkggytTSew</a>                               |
| Modelling an open loop system + PI controller (page 126)                                                | <a href="https://youtu.be/A67F9N9gg4Q">https://youtu.be/A67F9N9gg4Q</a>                               |
| Modelling of linear systems in state space (page 134)                                                   | <a href="https://youtu.be/wEVTNb7QOiU">https://youtu.be/wEVTNb7QOiU</a>                               |
| Modelling a linear system with a transfer function (page 138)                                           | <a href="https://youtu.be/HtbDSLWjfGw">https://youtu.be/HtbDSLWjfGw</a>                               |
| Modelling a on/off control for a plant (page 143)                                                       | <a href="https://youtu.be/XB_TUI_Za2k">https://youtu.be/XB_TUI_Za2k</a>                               |
| Modelling with a PID controller (page 144)                                                              | <a href="https://youtu.be/AYM6m4fUH-w">https://youtu.be/AYM6m4fUH-w</a>                               |
| Modelling masses and springs (page 147)                                                                 | <a href="https://youtu.be/kgI9kOHvFho">https://youtu.be/kgI9kOHvFho</a>                               |
| Modelling mechanical system with discs and clutches (page 152)                                          | <a href="https://youtu.be/457lP6kld54">https://youtu.be/457lP6kld54</a>                               |
| Modelling a mechanical system with control (page 156)                                                   | <a href="https://youtu.be/Xrs5VG_SrDk">https://youtu.be/Xrs5VG_SrDk</a>                               |
| Modelling a thermal system (page 160)                                                                   | <a href="https://youtu.be/fpwhjoFmls4">https://youtu.be/fpwhjoFmls4</a>                               |
| Modelling an electric circuit (page 164)                                                                | <a href="https://youtu.be/nQe9Hh31vWg">https://youtu.be/nQe9Hh31vWg</a>                               |
| Modelling an electronic system (page 167)                                                               | <a href="https://youtu.be/x-WfKXfWnVY">https://youtu.be/x-WfKXfWnVY</a>                               |