Title of the Contribution:
Model confidence level— a systematic metric for development of a virtual space habitat

Abstract:
In order to assess the robustness of a Spacecraft Life Support System (LSS) design based on average performance values, criteria such as stability and controllability must be considered under variable and peak system loads. The Exploration Group at the Technische Universität München (TUM) is developing the “Virtual Habitat” computational tool (V-HAB) for exactly this type of investigation. In order to characterize the relative level of confidence for complex models such as this, a generalized metric was defined which is able to indicate an incremental Model Confidence Level (MCL) throughout the model development process. This paper describes a proposed metric for systematically rating and describing the level of model development, created for and based on the V-HAB simulation.

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